Changes for the Better

MITSUBISHI ELECTRIC

AIR CONDITIONERS

MODEL

PQHY-P Y(S)HM-A
PQRY-P Y(S)HM-A
- For ground source application

DATA BOOK

Preface

DATABOOK describes the technical specifications of MITSUBISHI ELECTRIC Corp.'s CITYMULTI air conditioning system products.

In this DATABOOK for ground source application, information on water-cooled heat source unit PQHY-P Y(S)HM-A/ PQRY-P Y(S)HM-A, with the connection of standard CITY MULTI indoor unit series, Air to Water series, and Close Control PFD series are specified.

We recommend DATABOOK users to read carefully and take advantage of all the contents inside to design the CITY MULTI air conditioning system and/or to prepare documents for promotions.
Along with the DATABOOK, MITSUBISHI ELECTRIC provides a Design-Tool software to ensure the users to design the system correctly and simplify the calculations. Please contact your local distributor for this software.
Please be notified that specifications are subject to change without notice due to continual improvements of the product.
For any inquiries, please contact your local distributor.

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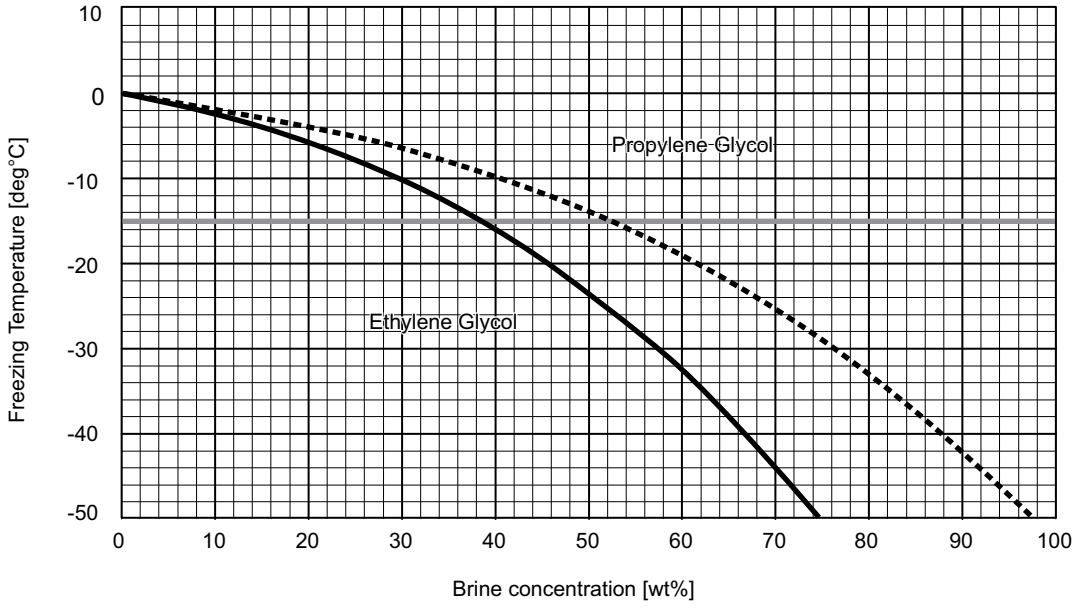
I Brine information

1.Brine freezing temperature

Brine concentration is decided by the freezing temperature. First, it is necessary to decide the freezing temperature and find out brine concentration which will correspond to the freezing temperature.

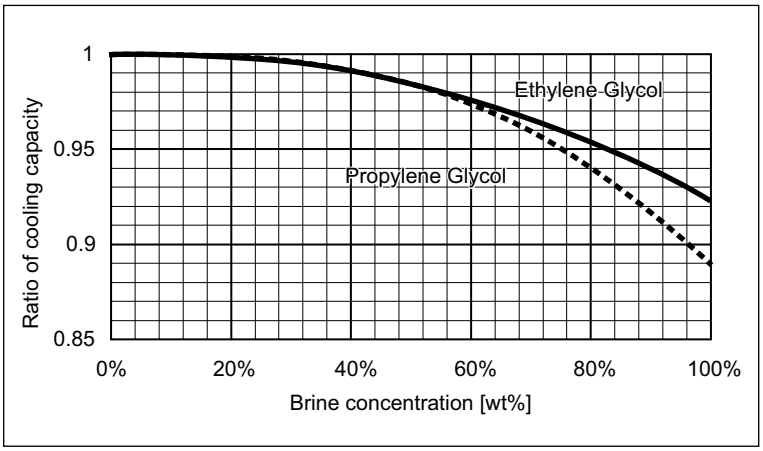


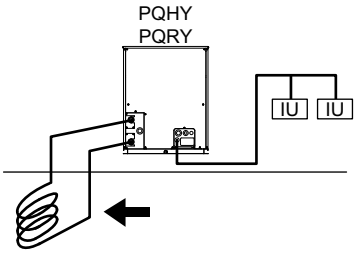
Note;
The graph was referred from chemical company data.
But Freezing Temperature condition will be slightly different based on each company.
Please confirm detail data to the chemical company directly.
It is recommended to set the brine concentration to a percentage that will keep the freezing temperature at -15deg°C or less.

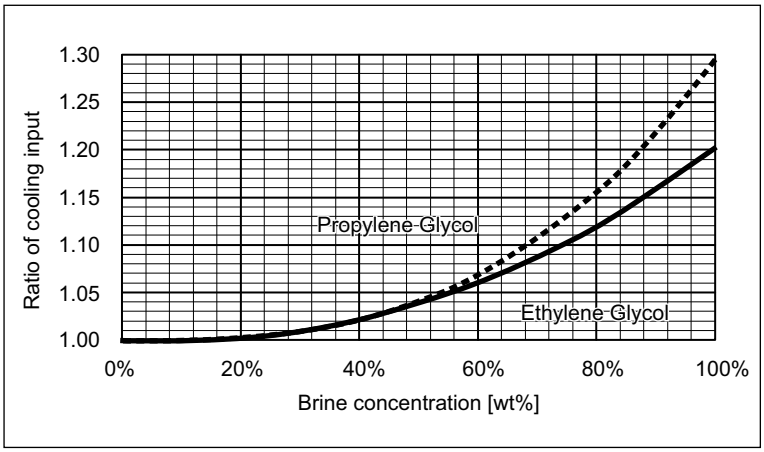
2.Capacity correction by brine concentration (For heat source unit)

Depending on the freezing temperature and brine concentration, the ratio of unit capacity will change.
As shown in the line diagram, higher the brine concentration, the lower the ratio of capacity becomes.

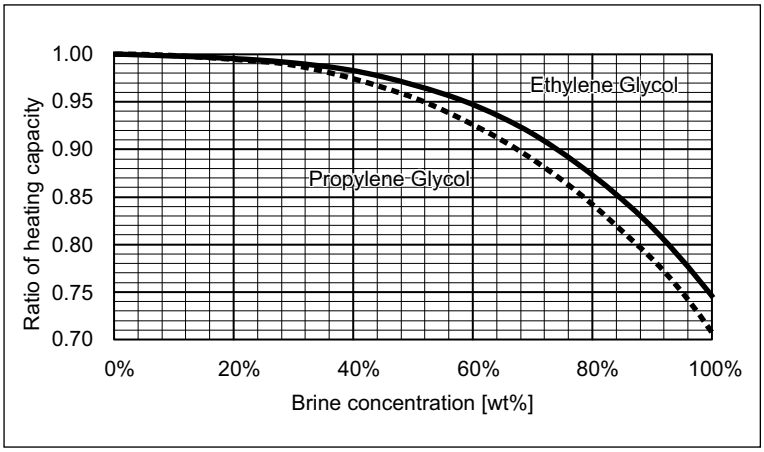
Cooling

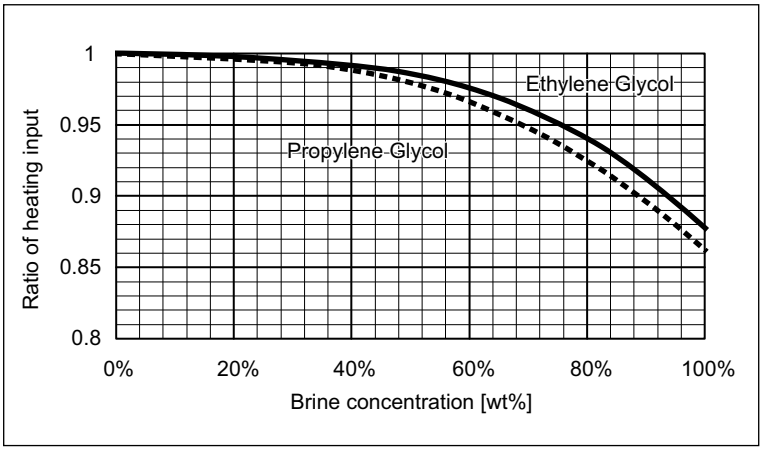






Heating

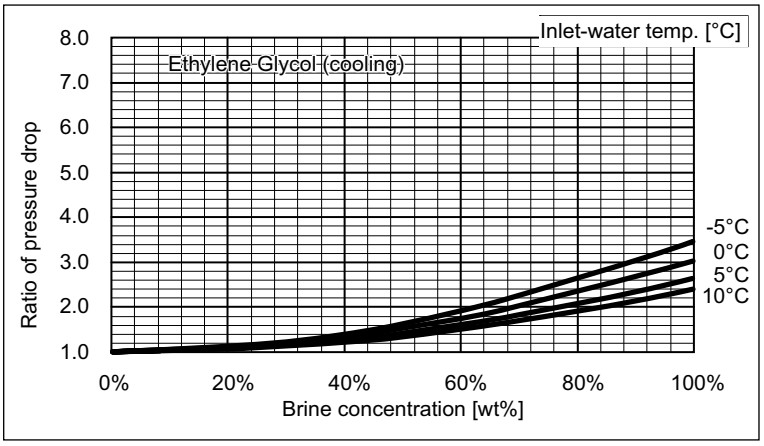


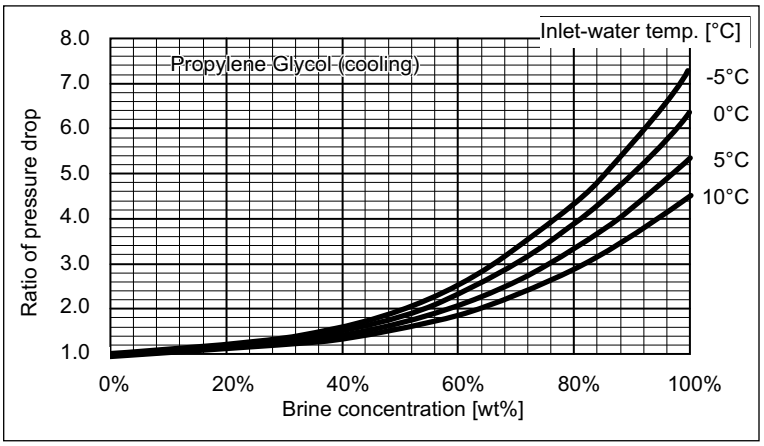


3.Pressure drop correction by brine concentration (For heat source unit)

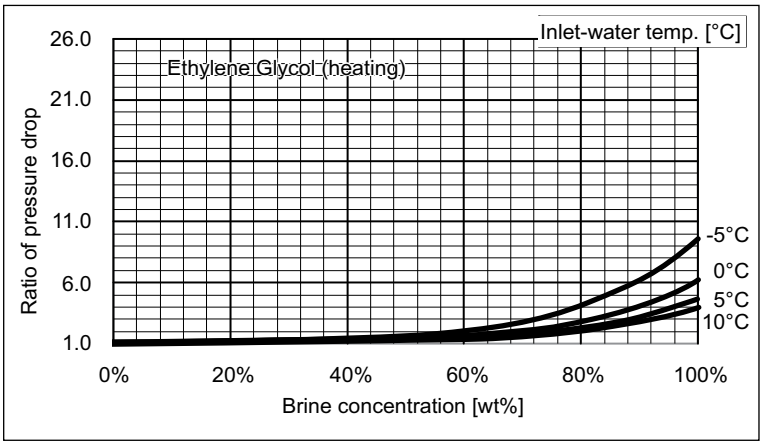
Also, water pump is selected by the ratio of pressure drop of depending on the brine concentration.

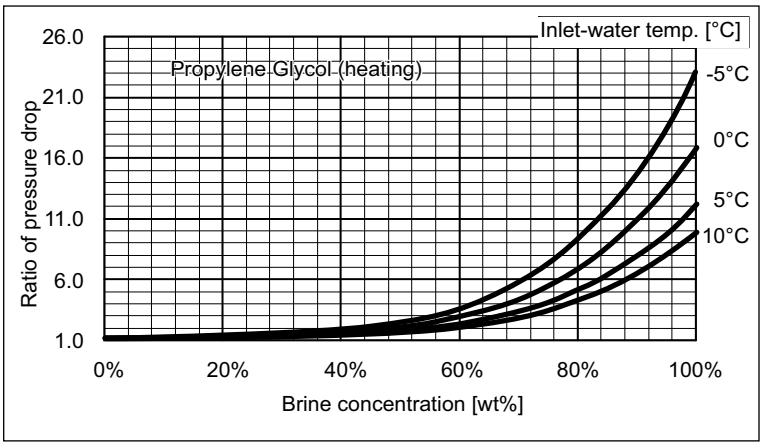
Cooling





Heating





* Please supply strainer on site.

II Heat source unit information

1.General lineup of water-cooled heat source unit

WY (Heat Pump) Series (8HP-36HP)
PQHY-P YHM-A
PQHY-P YSHM-A

Model	8HP	10HP	12HP	16HP
Model Name	PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A	PQHY-P400YSHM-A

Model	18HP	20HP	22HP	24HP
Model Name	PQHY-P450YSHM-A	PQHY-P500YSHM-A	PQHY-P550YSHM-A	PQHY-P600YSHM-A

Model	26HP	28HP	30HP	32HP
Model Name	PQHY-P650YSHM-A	PQHY-P700YSHM-A	PQHY-P750YSHM-A	PQHY-P800YSHM-A

Model	34HP	36HP
Model Name	PQHY-P850YSHM-A	PQHY-P900YSHM-A

WR2 (Heat Recovery) Series (8HP-24HP)
PQRY-P YHM-A
PQRY-P YSHM-A

Model	8HP	10HP	12HP	16HP
Model Name	PQRY-P200YHM-A	PQHRY-P250YHM-A	PQRY-P300YHM-A	PQRY-P400YSHM-A

Model	18HP	20HP	22HP	24HP
Model Name	PQRY-P450YSHM-A	PQRY-P500YSHM-A	PQRY-P550YSHM-A	PQRY-P600YSHM-A

2.PQHY-P-Y(S)HM-A

(1) Specification

(1)-1 Heat source units specification for standard combination (Standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU)

Model			PQHY-P200YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	22.4
	*1	kcal / h	19,300
	*1	BTU / h	76,400
	Power input	kW	3.92
	Current input	A	6.6-6.2-6.0
	COP	kW / kW	5.71
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	25.0
	*2	kcal / h	21,500
	*2	BTU / h	85,300
	Power input	kW	4.12
	Current input	A	6.9-6.6-6.3
	COP	kW / kW	6.06
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~17
Sound pressure level (measured in anechoic room)		dB <A>	47
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8) Brazed
	Gas pipe	mm(in.)	19.05(3/4) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	4.6
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	195(430)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T222
	Wiring		KE94C317
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2 Header: CMY-Y104/108/1010-G

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P250YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	28.0
	*1	kcal / h	24,100
	*1	BTU / h	95,500
	Power input	kW	5.45
	Current input	A	9.2-8.7-8.4
	COP	kW / kW	5.13
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	31.5
	*2	kcal / h	27,100
	*2	BTU / h	107,500
	Power input	kW	5.80
	Current input	A	9.7-9.3-8.9
	COP	kW / kW	5.43
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~21
Sound pressure level (measured in anechoic room)		dB <A>	49
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8) Brazed (12.7(1/2) Brazed,total length >= 90m)
	Gas pipe	mm(in.)	22.2(7/8) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	6.3
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	195(430)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T222
	Wiring		KE94C317
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2, CMY-Y102L-G2 Header: CMY-Y104/108/1010-G

Remarks

- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40°C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)	Nominal heating conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)	Indoor:20°CDB(68°FDB)
Water temperature:30°C(86°F)	Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)	Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%	Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions	Nominal heating conditions
Circulating water Temp. : 30°C (86°F)	Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)	Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)	Level difference : 0m (0ft)
Inlet water Temp 23°C	Inlet water Temp 30°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)	Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%	Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P300YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	33.5
	*1	kcal / h	28,800
	*1	BTU / h	114,300
	Power input	kW	7.36
	Current input	A	12.4-11.8-11.3
	COP	kW / kW	4.55
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	37.5
	*2	kcal / h	32,300
	*2	BTU / h	128,000
	Power input	kW	8.15
	Current input	A	13.7-13.0-12.5
	COP	kW / kW	4.60
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~26
Sound pressure level (measured in anechoic room)		dB <A>	50
Refrigerant piping diameter	Liquid pipe	mm(in.)	9.52(3/8) Brazed (12.7(1/2) Brazed,total length >= 40m)
	Gas pipe	mm(in.)	22.2(7/8) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	7.4
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	195(430)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T222
	Wiring		KE94C317
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2,CMY-Y102L-G2 Header: CMY-Y104/108/1010-G

Remarks

- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter	
kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P400YSHM-A (For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	45.0
	*1	kcal / h	38,700
	*1	BTU / h	153,500
	Power input	kW	8.25
	Current input	A	13.9-13.2-12.7
	COP	kW / kW	5.45
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	50.0
	*2	kcal / h	43,000
	*2	BTU / h	170,600
	Power input	kW	8.65
	Current input	A	14.6-13.8-13.3
	COP	kW / kW	5.78
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~34
Sound pressure level (measured in anechoic room)		dB <A>	50
Refrigerant piping diameter	Liquid pipe	mm(in.)	12.7(1/2) Brazed
	Gas pipe	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQHY-P200YHM-A(For Ground source)	PQHY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	4.6	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	195(430)	195(430)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	Liquid pipe	mm(in.)	9.52(3/8) Brazed	9.52(3/8) Brazed
	Gas pipe	mm(in.)	19.05(3/ 4) Brazed	19.05(3/ 4) Brazed
Drawing	External		KB94T223	
	Wiring		KE94C317	KE94C317
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Y100VBK2 Joint: CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2 Header: CMY-Y104/108/1010-G	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P450YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	50.0
	*1	kcal / h	43,000
	*1	BTU / h	170,600
	Power input	kW	9.84
	Current input	A	16.6-15.7-15.2
	COP	kW / kW	5.08
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	56.0
	*2	kcal / h	48,200
	*2	BTU / h	191,100
	Power input	kW	10.42
	Current input	A	17.5-16.7-16.1
	COP	kW / kW	5.37
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~39
Sound pressure level (measured in anechoic room)		dB <A>	51
Refrigerant piping diameter	Liquid pipe	mm(in.)	15.88(5/8) Brazed
	Gas pipe	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQHY-P250YHM-A(For Ground source)	PQHY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	6.3	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	195(430)	195(430)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	Liquid pipe	mm(in.)	9.52(3/8) Brazed	9.52(3/8) Brazed
	Gas pipe	mm(in.)	22.2(7/ 8) Brazed	22.2(7/ 8) Brazed
Drawing	External		KB94T223	
	Wiring		KE94C317	KE94C317
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Y100VBK2 Joint: CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2 Header: CMY-Y104/108/1010-G	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P500YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	56.0
	*1	kcal / h	48,200
	*1	BTU / h	191,100
	Power input	kW	11.45
	Current input	A	19.3-18.3-17.6
	COP	kW / kW	4.89
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	63.0
	*2	kcal / h	54,200
	*2	BTU / h	215,000
	Power input	kW	12.06
	Current input	A	20.3-19.3-18.6
	COP	kW / kW	5.22
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~43
Sound pressure level (measured in anechoic room)		dB <A>	52
Refrigerant piping diameter	Liquid pipe	mm(in.)	15.88(5/8) Brazed
	Gas pipe	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQHY-P250YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	6.3	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	195(430)	195(430)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	Liquid pipe	mm(in.)	9.52(3/8) Brazed	9.52(3/8) Brazed
	Gas pipe	mm(in.)	22.2(7/ 8) Brazed	22.2(7/ 8) Brazed
Drawing	External		KB94T223	
	Wiring		KE94C317	KE94C317
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Y100VBK2 Joint: CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2 Header: CMY-Y104/108/1010-G	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P550YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	63.0
	*1	kcal / h	54,200
	*1	BTU / h	215,000
	Power input	kW	13.46
	Current input	A	22.7-21.5-20.8
	COP	kW / kW	4.68
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	69.0
	*2	kcal / h	59,300
	*2	BTU / h	235,400
	Power input	kW	14.65
	Current input	A	24.7-23.4-22.6
	COP	kW / kW	4.70
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~47
Sound pressure level (measured in anechoic room)		dB <A>	52.5
Refrigerant piping diameter	Liquid pipe	mm(in.)	15.88(5/8) Brazed
	Gas pipe	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQHY-P300YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	7.4	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	195(430)	195(430)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/ 8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T223	
	Wiring		KE94C317	KE94C317
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Y100VBK2 Joint: CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P600YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	69.0
	*1	kcal / h	59,300
	*1	BTU / h	235,400
	Power input	kW	15.48
	Current input	A	26.1-24.8-23.9
	COP	kW / kW	4.45
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	76.5
	*2	kcal / h	65,800
	*2	BTU / h	261,000
	Power input	kW	17.12
	Current input	A	28.9-27.4-26.4
	COP	kW / kW	4.46
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	53
Refrigerant piping diameter	Liquid pipe	mm(in.)	15.88(5/8) Brazed
	Gas pipe	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQHY-P300YHM-A(For Ground source)	PQHY-P300YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	7.4	7.4
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	195(430)	195(430)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T223	
	Wiring		KE94C317	KE94C317
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Y100VBK2 Joint: CMY-Y102S-G2, CMY-Y102L-G2, CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P650YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	73.0
	*1	kcal / h	62,800
	*1	BTU / h	249,100
	Power input	kW	13.96
	Current input	A	23.5-22.3-21.5
	COP	kW / kW	5.22
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	81.5
	*2	kcal / h	70,100
	*2	BTU / h	278,100
	Power input	kW	14.74
	Current input	A	24.8-23.6-22.7
	COP	kW / kW	5.52
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	53
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	34.93(1-3/8) Brazed

Set Model

Model			PQHY-P250YHM-A(For Ground source)	PQHY-P200YHM-A(For Ground source)	PQHY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	6.3	4.6	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	19.05(3/4) Brazed	19.05(3/4) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P700YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	80.0
	*1	kcal / h	68,800
	*1	BTU / h	273,000
	Power input	kW	15.58
	Current input	A	26.3-24.9-24.0
	COP	kW / kW	5.13
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	88.0
	*2	kcal / h	75,700
	*2	BTU / h	300,300
	Power input	kW	16.51
	Current input	A	27.8-26.4-25.5
	COP	kW / kW	5.33
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	53.5
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	34.93(1-3/8) Brazed

Set Model

Model			PQHY-P250YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)	PQHY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	6.3	6.3	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed	19.05(3/4) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P750YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	85.0
	*1	kcal / h	73,100
	*1	BTU / h	290,000
	Power input	kW	17.19
	Current input	A	29.0-27.5-26.5
	COP	kW / kW	4.94
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	95.0
	*2	kcal / h	81,700
	*2	BTU / h	324,100
	Power input	kW	18.27
	Current input	A	30.8-29.3-28.2
	COP	kW / kW	5.19
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	54
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	34.93(1-3/8) Brazed

Set Model

Model			PQHY-P250YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	6.3	6.3	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P800YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	90.0
	*1	kcal / h	77,400
	*1	BTU / h	307,100
	Power input	kW	19.18
	Current input	A	32.3-30.7-29.6
	COP	kW / kW	4.69
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	100.0
	*2	kcal / h	86,000
	*2	BTU / h	341,200
	Power input	kW	20.74
	Current input	A	35.0-33.2-32.0
	COP	kW / kW	4.82
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	54
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	34.93(1-3/8) Brazed

Set Model

Model			PQHY-P300YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	7.4	6.3	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P850YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	96.0
	*1	kcal / h	82,600
	*1	BTU / h	327,600
	Power input	kW	21.20
	Current input	A	35.7-33.9-32.7
	COP	kW / kW	4.52
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	108.0
	*2	kcal / h	92,900
	*2	BTU / h	368,500
	Power input	kW	23.21
	Current input	A	39.1-37.2-35.8
	COP	kW / kW	4.65
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	54.5
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	41.28(1-5/8) Brazed

Set Model

Model			PQHY-P300YHM-A(For Ground source)	PQHY-P300YHM-A(For Ground source)	PQHY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	7.4	7.4	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQHY-P900YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	101.0
	*1	kcal / h	86,900
	*1	BTU / h	344,600
	Power input	kW	23.22
	Current input	A	39.1-37.2-35.8
	COP	kW / kW	4.34
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	113.0
	*2	kcal / h	97,200
	*2	BTU / h	385,600
	Power input	kW	25.67
	Current input	A	43.3-41.1-39.6
	COP	kW / kW	4.40
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~130 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50
Sound pressure level (measured in anechoic room)		dB <A>	55
Refrigerant piping diameter	Liquid pipe	mm(in.)	19.05(3/4) Brazed
	Gas pipe	mm(in.)	41.28(1-5/8) Brazed

Set Model

Model			PQHY-P300YHM-A(For Ground source)	PQHY-P300YHM-A(For Ground source)	PQHY-P300YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76 + 5.76		
		L/min	96 + 96 + 96		
		cfm	3.4 + 3.4 + 3.4		
	Pressure drop	kPa	17	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 + 4.5 ~ 7.2 + 7.2 + 7.2		
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter	Inverter
	Motor output	kW	7.4	7.4	7.4
	Case heater	kW	0.035(240 V)	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		LEV and HIC circuit		
Net weight		kg(lbs)	195(430)	195(430)	195(430)
Heat exchanger			plate type	plate type	plate type
	Water volume in plate	l	5.0	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure	Copper pipe,tube-in-tube structure
Pipe between unit and distributor	Liquid pipe	mm(in.)	12.7(1/2) Brazed	12.7(1/2) Brazed	12.7(1/2) Brazed
	Gas pipe	mm(in.)	22.2(7/8) Brazed	22.2(7/8) Brazed	22.2(7/8) Brazed
Drawing	External		KB94T659		
	Wiring		KE94C317	KE94C317	KE94C317
Standard attachment	Document		Installation Manual		
	Accessory		Refrigerant conn. pipe		
Optional parts			Heat Source Twinning kit: CMY-Y300VBK2 Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-Y302-G2 Header: CMY-Y104/108/1010-G		

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C
Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C
Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

(1)-2 System specification for closed control system (PFD-P250/500VM-E)

Model Name		Indoor	**PFD-P250VM-E**		
		Heat source	**PQHY-P250YHM-A(For Ground source)**		
			Cooling		Heating
System capacity		kW	28.0		31.5
System Power input		kW	7.95		8.01
System current		A	14.5 / 13.7 / 13.3		14.6 / 13.8 / 13.4
Power source		-	3N ~ 380 / 400 / 415 V(50Hz), 400 / 415 V(60Hz)		
Power input		kW	2.5		
Current		A	5.3 / 5.0 / 4.9		
Fan	Type×Quantity		Sirocco fan × 1		
	Airflow rate	m^3 / min	160		
	External static pressure	Pa	120		
	Motor output	kW	2.2		
Refrigerant			R410A		
External finish			Galvanized steel plate (with polyester coating) <MUNSEL 2.9GY 8.6 / 0.3(White) 7.2GB 3.2 / 5.3(Blue) or similar>		
External dimension		mm	1950(H)×1380(W)×780(D)		
Protection	Fan		Thermal switch		
Refrigerant piping diameter			Liquid pipe	Ø9.52 Brazed (Ø12.7 for over 90m)	
			Gas pipe	Ø22.2 Brazed	
Refrigerant piping allowable		m	165		
Noise level		dB(A)	59		
Heat exchanger			Cross fin (Aluminum plate fin and copper tube)		
Air filter			PP Honeycomb fabric (washable)		
Net weight		kg	380		
Operating temperature range			Cooling		Heating
			Indoor : 12°CWB ~ 24°CWB Circulating water : -5°CDB ~ 45°CDB		Indoor : 15°CDB ~ 28°CDB Circulating water : -5°CDB ~ 45°CDB
Operating Circulating water volume range			4.5 ~ 7.2m^3/h		

Note

1. Cooling / Heating capacity indicates the nominal value at operation under the following conditions.
   <Cooling> Indoor : 27°CDB / 19°CWB Circulating water : 30°CDB
   <Heating> Indoor : 20°CDB Circulating water : 20°CDB
   Pipe length : 7.5m Height difference : 0m
   Brine concentration : 0%
2. The noise level is measured in an anechoic room.
3. Heating can be used only by the indoor warming-up.
4. Works not included : Installation / foundation work, electric connection work, duct work, insulation work, The power source switch and other items are not specified in the specifications.
5. Add brine to circulating water for heat source unit when operating at water temperature below 10°C.

Model Name		Indoor	**PFD-P500VM-E**	
		Heat source	**PQHY-P250YHM-A(For Ground source)×2**	
			Cooling	Heating
System capacity		kW	56.0	63.0
System Power input		kW	15.9	16.02
System current		A	27.9 / 26.4 / 25.5	28.1 / 26.6 / 25.7
Power source		-	3N ~ 380 / 400 / 415 V(50Hz), 400 / 415 V(60Hz)	
Power input		kW	5.0	
Current		A	9.5 / 9.0 / 8.7	
Fan	Type×Quantity		Sirocco fan × 1	
	Airflow rate	m^3/ min	320	
	External static pressure	Pa	120	
	Motor output	kW	4.4	
Refrigerant			R410A	
External finish			Galvanized steel plate (with polyester coating) <MUNSEL 2.9GY 8.6 / 0.3(White) 7.2GB 3.2 / 5.3(Blue) or similar>	
External dimension		mm	1950(H)×1980(W)×780(D)	
Protection	Fan		Thermal switch	
Refrigerant piping diameter			Liquid pipe	Ø9.52 Brazed (Ø12.7 for over 90m)
			Gas pipe	Ø22.2 Brazed
Refrigerant piping allowable		m	165	
Noise level		dB(A)	63	
Heat exchanger			Cross fin (Aluminum plate fin and copper tube)	
Air filter			PP Honeycomb fabric (washable)	
Net weight		kg	520	
Operating temperature range			Cooling	Heating
			Indoor : 12°CWB ~ 24°CWB Circulating water : -5°CDB ~ 45°CDB	Indoor : 15°CDB ~ 28°CDB Circulating water : -5°CDB ~ 45°CDB
Operating Circulating water volume range			$4.5 \sim 7.2 m^3$/ h ×2	

Note

1. Cooling / Heating capacity indicates the nominal value at operation under the following conditions.
   <Cooling> Indoor : 27°CDB / 19°CWB Circulating water : 30°CDB
   <Heating> Indoor : 20°CDB Circulating water : 20°CDB
   Pipe length : 7.5m Height difference : 0m
   Brine concentration : 0%
2. The noise level is measured in an anechoic room.
3. Heating can be used only by the indoor warming-up.
4. Works not included : Installation / foundation work, electric connection work, duct work, insulation work, The power source switch and other items are not specified in the specifications.
   At factory shipment, this model of indoor unit is designed and set to accommodate a single refrigerant circuit. Connection of two refrigerant circuits to the indoor unit requires setting change and pipe work.
5. Add brine to circulating water for heat source unit when operating at water temperature below 10°C.

(2) External dimension

PQHY-P200,250,300YHM-A

Note 1. Close a hole of the water piping, the refrigerant piping, the power supply, and the control wiring and unused knockout holes with the putty etc. so as not to infiltrate rain water etc. (field erection work)

Note 2. At the time of product shipment, the front side piping specification serves as the local drainage connection. When connecting on the rear side, please remove the rear side plug sealing corks, and attach a front side. Ensure there is no leak after the attachment has been fitted.

Note 3. Take notice of service space as Fig. A. (In case of single installation, 600mm or more of back space as front space makes easier access when servicing the unit from rear side)

Note 4. If water pipes or refrigerant pipes stretch upward, required space for service and maintenance due to replacement of control box is shown in Fig. B.

Note 5. In case the temperature around the heat source unit has possibility to drop under 0°C or the inlet-water temp. drops under 10°C, be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
- · Add brine to water circuit.
- · Circulate the water all the time even if the heat source unit is not in operation.
- · Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.

Note 6. Ensure that the drain piping is downward with a pitch of more than 1/100.

Note 7. The detachable leg can be removed at site.

Note 8. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C.

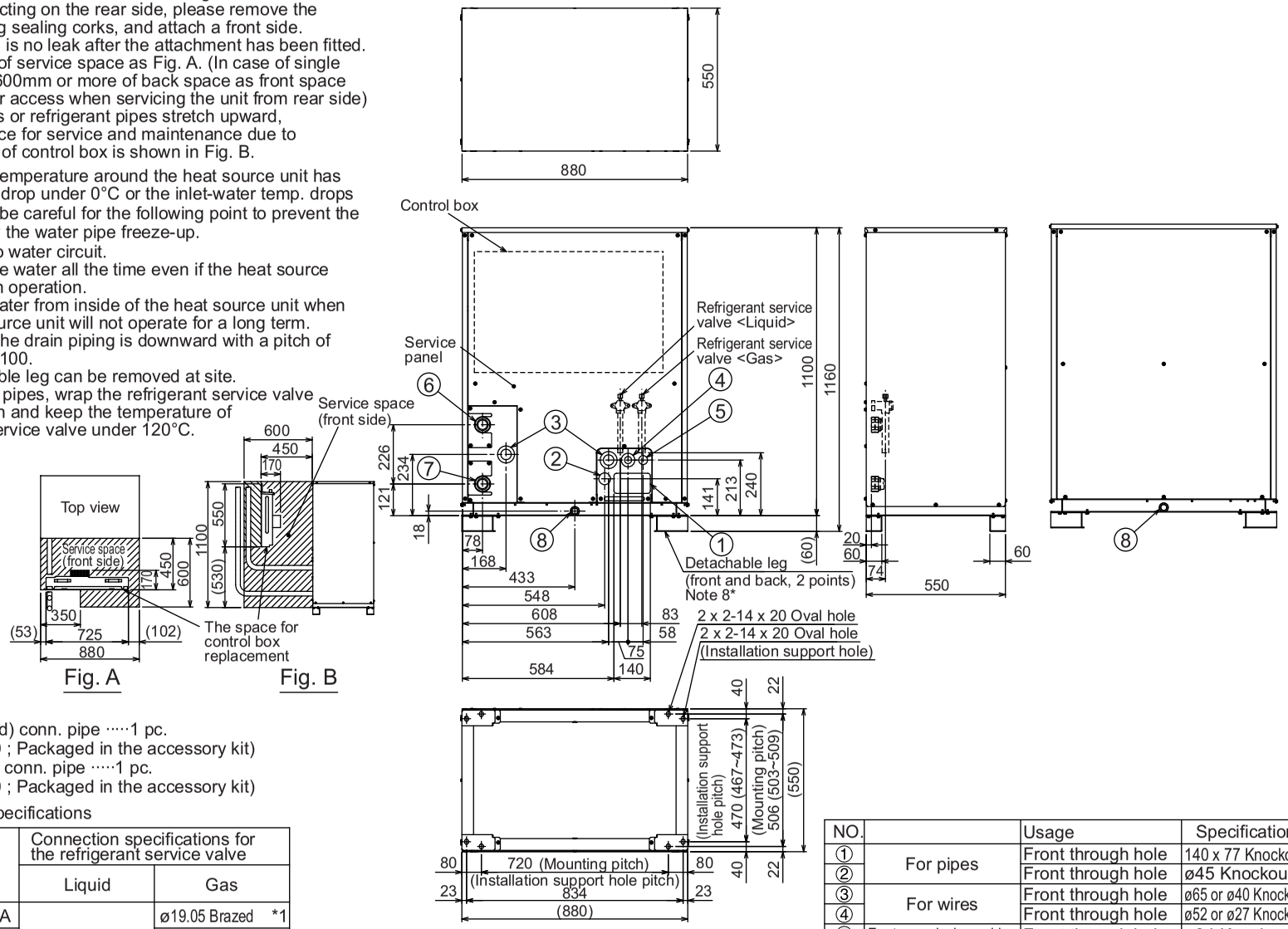


Fig. A Fig. B

<Accessories>
- · Refrigerant (Liquid) conn. pipe ·····1 pc. (P200/P250/P300 ; Packaged in the accessory kit)
- · Refrigerant (Gas) conn. pipe ·····1 pc. (P200/P250/P300 ; Packaged in the accessory kit)

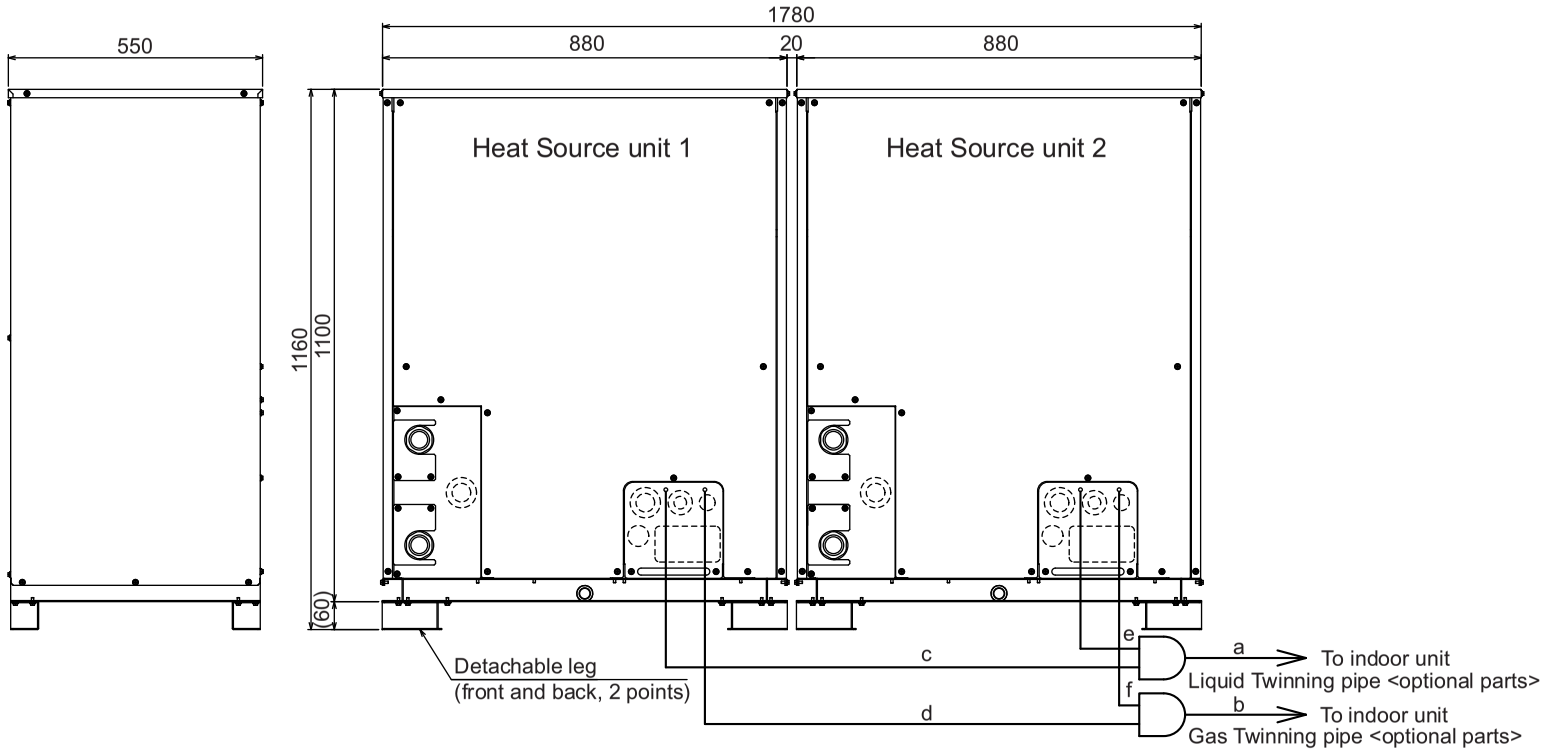
Connecting pipe specifications

Model	Connection specifications for the refrigerant service valve	
	Liquid	Gas
PQHY-P200YHM-A	ø9.52 Brazed *1	ø19.05 Brazed *1
PQHY-P250YHM-A		ø22.2 Brazed *1
PQHY-P300YHM-A		

*1. Connect by using the connecting pipes that are supplied.

NO.		Usage	Specifications
①	For pipes	Front through hole	140 x 77 Knockout hole
②		Front through hole	ø45 Knockout hole
③	For wires	Front through hole	ø65 or ø40 Knockout hole
④		Front through hole	ø52 or ø27 Knockout hole
⑤	For transmission cables	Front through hole	ø34 Knockout hole
⑥	Water pipe	inlet	Rc1-1/2 Screw
⑦		outlet	Rc1-1/2 Screw
⑧	Drain pipe	Rc3/4 Screw	

Unit : mm

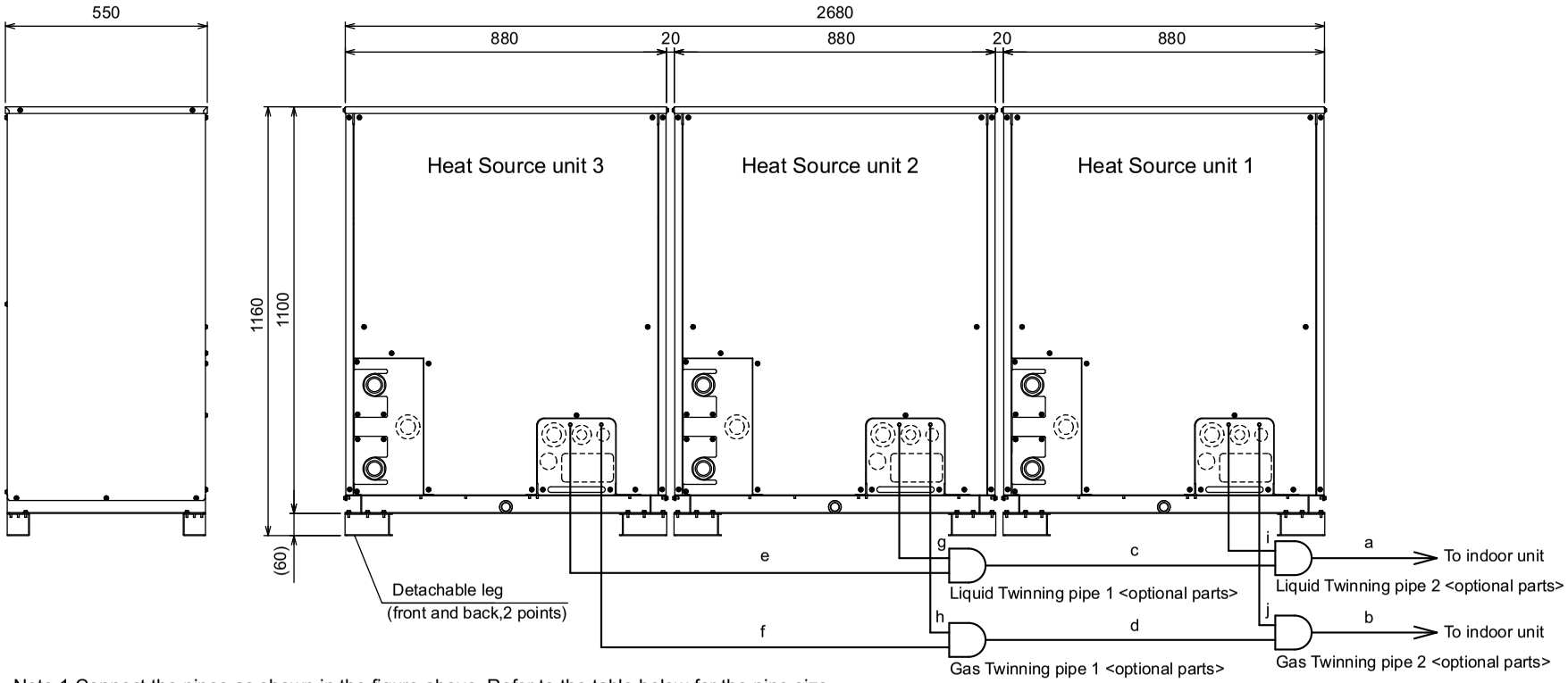


Note 1. Connect the pipes as shown in the figure above. Refer to the table below for the pipe size.
2. The detachable leg can be removed at site.
3. Twinning pipe should not be tilted more than 15 degrees from the ground.
4. See the Installation Manual for the details of Twinning pipe installation.
5. The length of the straight part of pipe connected in front of the twinning pipe must be 500mm (19inch) or longer.

Twinning pipe connection size

Package unit name			PQHY-P400YSHM-A	PQHY-P450YSHM-A	PQHY-P500YSHM-A	PQHY-P550YSHM-A	PQHY-P600YSHM-A
Component unit name	Heat Source unit 1		PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A	PQHY-P300YHM-A
	Heat Source unit 2		PQHY-P200YHM-A	PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A
Twinning pipe Kit (optional parts)			CMY-Y100VBK2				
Indoor unit ~ Twinning pipe	Liquid	a	ø12.7	ø15.88			
	Gas	b	ø28.58				
Twinning pipe ~ Heat Source unit 1	Liquid	c	ø9.52			ø12.7	
	Gas	d	ø19.05	ø22.2			
Twinning pipe ~ Heat Source unit 2	Liquid	e	ø9.52			ø12.7	
	Gas	f	ø19.05	ø22.2			

Unit : mm



Note 1.Connect the pipes as shown in the figure above. Refer to the table below for the pipe size.
2.The detachable leg can be removed at site.
3.Twinning pipe should not be tilted more than 15 degrees from the ground.
4.See the Installation Manual for the details of Twinning pipe installation.
5.The pipe section before the Twinning pipe (sections "a", "b", "c" and "d" in the figure) must have at least 500mm(19inch) of straight section (*including the straight pipe that is supplied with the Twinning pipe).
6.Only use the Twinning pipe by Mitsubishi (optional parts).

Twinning pipe connection size

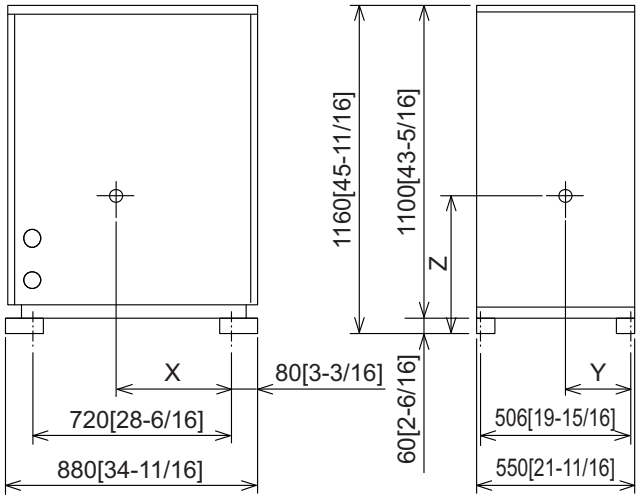
Package unit name			PQHY-P650YSHM-A	PQHY-P700YSHM-A	PQHY-P750YSHM-A	PQHY-P800YSHM-A	PQHY-P850YSHM-A	PQHY-P900YSHM-A
Component unit name	Heat Source unit 1		PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A	PQHY-P300YHM-A	PQHY-P300YHM-A
	Heat Source unit 2		PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A	PQHY-P300YHM-A
	Heat Source unit 3		PQHY-P200YHM-A	PQHY-P200YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P250YHM-A	PQHY-P300YHM-A
Twinning pipe Kit (optional parts)			CMY-Y300VBK2					
Indoor unit ~ Twinning pipe 2	Liquid	a	ø19.05					
	Gas	b	ø34.93				ø41.28	
Twinning pipe 1 ~ Twinning pipe 2	Liquid	c	ø 19.05					
	Gas	d	ø34.93					

	Unit model	Liquid	Gas
		e or g or i	f or h or j
Twinning pipe ~ Heat Source unit	P200	ø12.7	ø19.05
	P250		ø22.2
	P300		

Unit : mm

(3) Center of gravity

PQHY-P200,250,300YHM-A

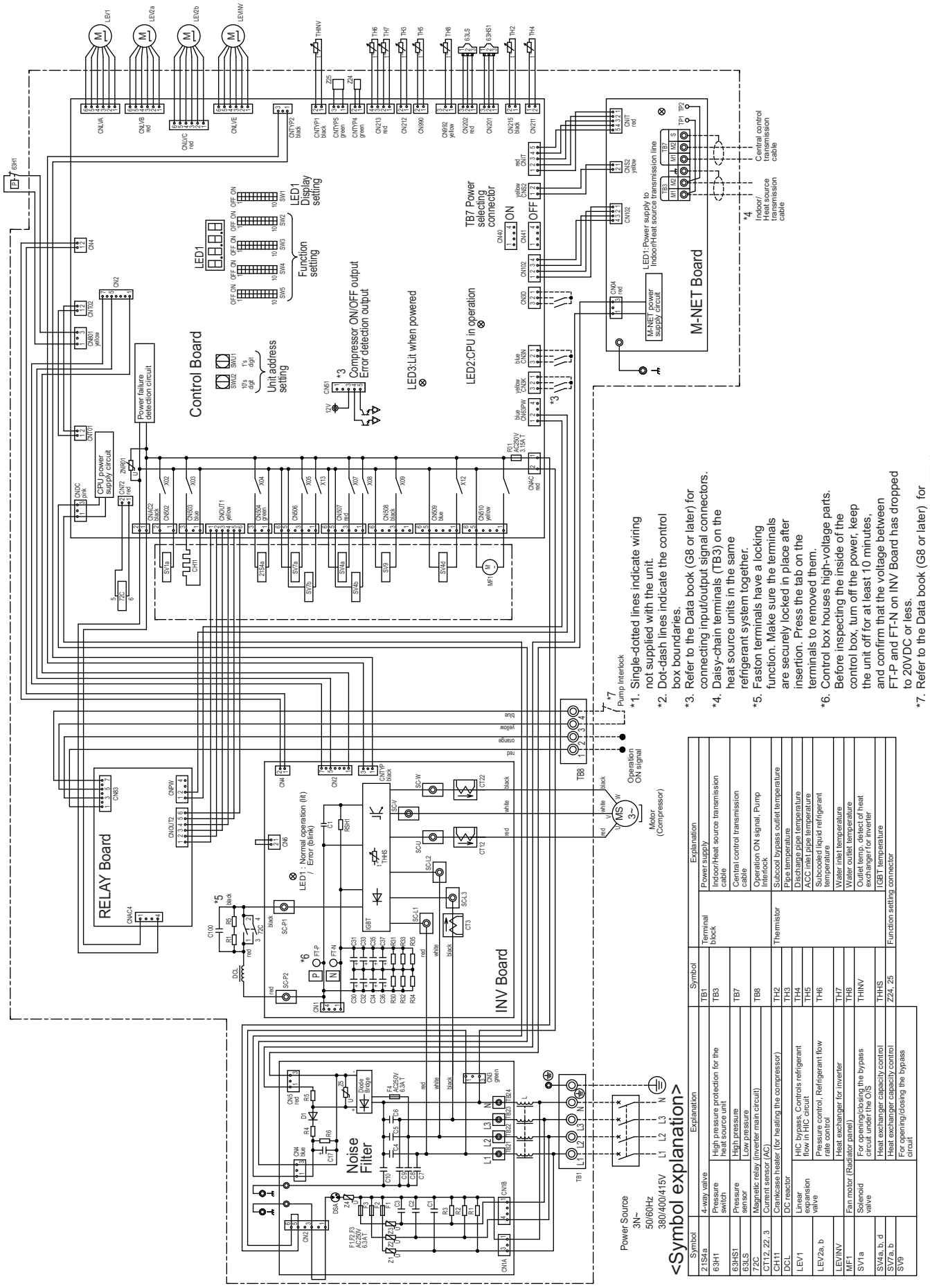


Unit : mm[in.]

Model	X	Y	Z
PQHY-P200YHM-A[-BS]	418[16-8/16]	250[9-14/16]	532[21]
PQHY-P250YHM-A[-BS]	418[16-8/16]	250[9-14/16]	532[21]
PQHY-P300YHM-A[-BS]	418[16-8/16]	250[9-14/16]	532[21]

(4) Electrical wiring diagram

PQHY-P200,250,300YHM-A



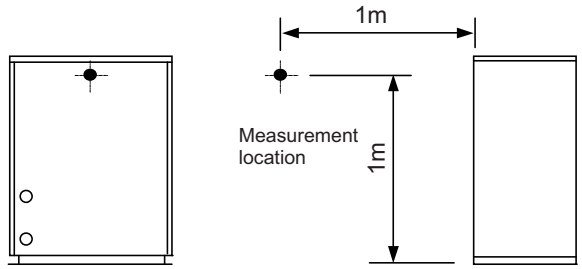
<Symbol explanation>

Symbol	Explanation	Symbol		Explanation
21S4a	4-way valve	TB1	Terminal block	Power supply
63H1	Pressure switch	High pressure protection for the heat source unit	TB3	Indoor/Heat source transmission cable
63HS1	Pressure sensor	High pressure	TB7	Central control transmission cable
63LS		Low pressure		
72C	Magnetic relay (Inverter main circuit)		TB8	Operation ON signal, Pump Interlock
CT12, 22, 3	Current sensor (AC)		TH2	Thermistor	Subcool bypass outlet temperature
CH11	Crankcase heater (for heating the compressor)		TH3		Pipe temperature
DCL	DC reactor		TH4		Discharge pipe temperature
LEV1	Linear expansion valve	HIC bypass, Controls refrigerant flow in HIC circuit	TH5		ACC inlet pipe temperature
LEV2a, b		Pressure control, Refrigerant flow rate control	TH6		Subcooled liquid refrigerant temperature
LEVINV		Heat exchanger for inverter	TH7		Water inlet temperature
MF1	Fan motor (Radiator panel)		TH8		Water outlet temperature
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S	THINV		Outlet temp. detect of heat exchanger for inverter
SV4a, b, d		Heat exchanger capacity control	THHS		IGBT temperature
SV7a, b		Heat exchanger capacity control	Z24, 25	Function setting connector	
SV9		For opening/closing the bypass circuit			

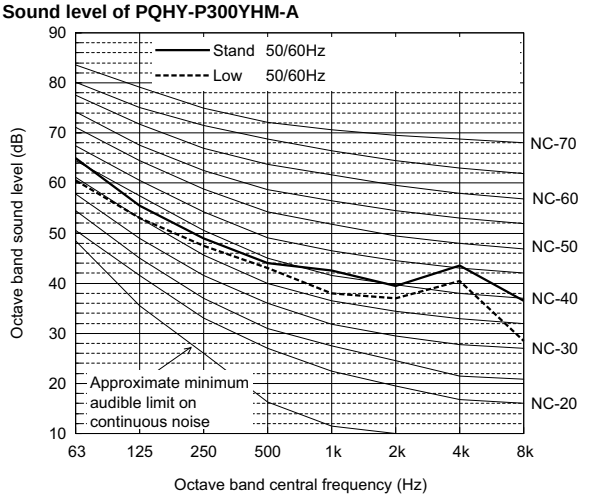
*1. Single-dotted lines indicate wiring not supplied with the unit.
*2. Dot-dash lines indicate the control box boundaries.
*3. Refer to the Data book (G8 or later) for connecting input/output signal connectors.
*4. Daisy-chain terminals (TB3) on the heat source units in the same refrigerant system together.
*5. Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
*6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between FT-P and FT-N on INV Board has dropped to 20VDC or less.
*7. Refer to the Data book (G8 or later) for wiring terminal block for Pump Interlock (TB8).

(5) Sound levels

Measurement condition
PQHY-P200,250,300YHM-A



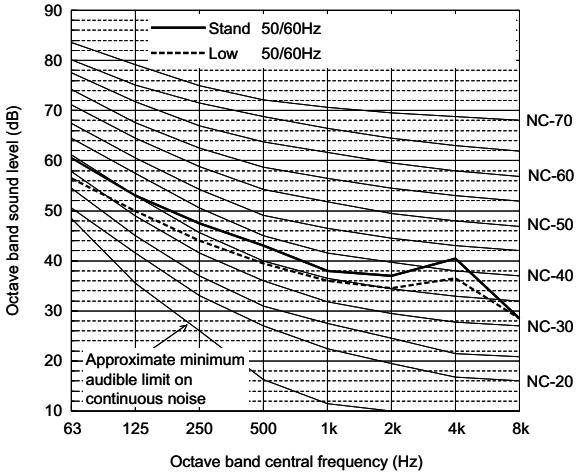
Sound level of PQHY-P300YHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	65.0	55.5	49.0	44.0	42.5	39.5	43.5	36.5	50.0
Low noise mode	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

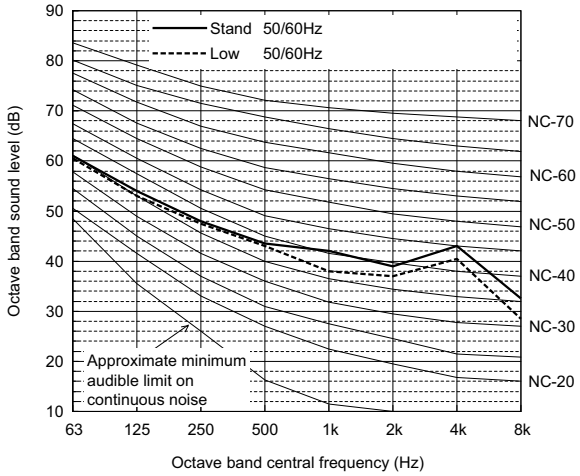
Sound level of PQHY-P200YHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0
Low noise mode	50/60Hz	56.5	50.0	44.0	39.5	36.0	34.5	36.5	28.5	44.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

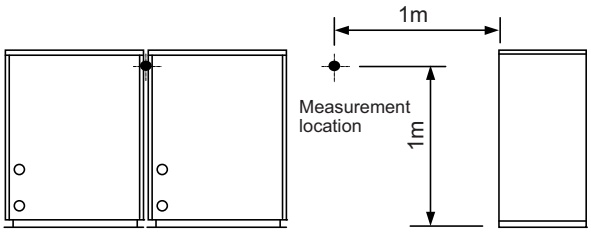
Sound level of PQHY-P250YHM-A



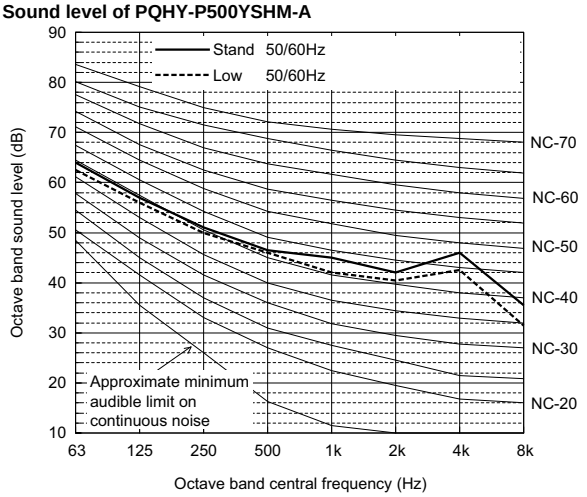
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	61.0	54.0	48.0	43.5	42.0	39.0	43.0	32.5	49.0
Low noise mode	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Measurement condition
PQHY-P400,450,500,550,600YSHM-A



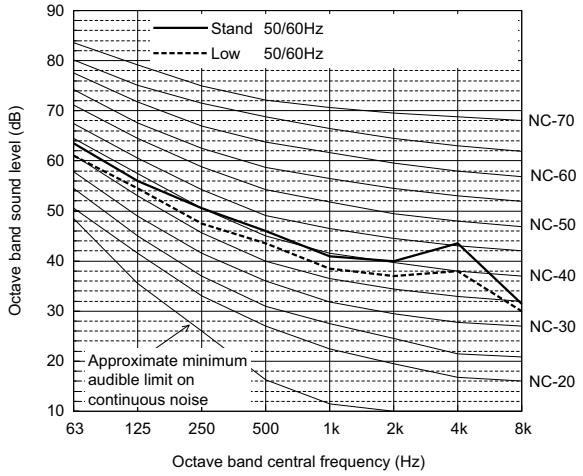
Sound level of PQHY-P500YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	64.0	57.0	51.0	46.5	45.0	42.0	46.0	35.5	52.0
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

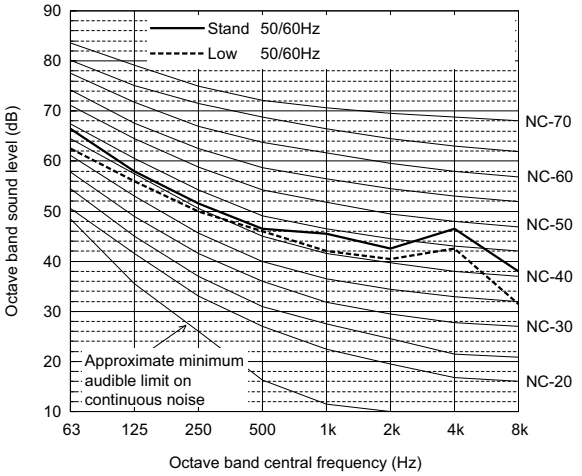
Sound level of PQHY-P400YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	63.5	56.0	50.5	46.0	41.0	40.0	43.5	31.5	50.0
Low noise mode	50/60Hz	61.0	54.5	47.5	43.5	38.5	37.0	38.0	30.0	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

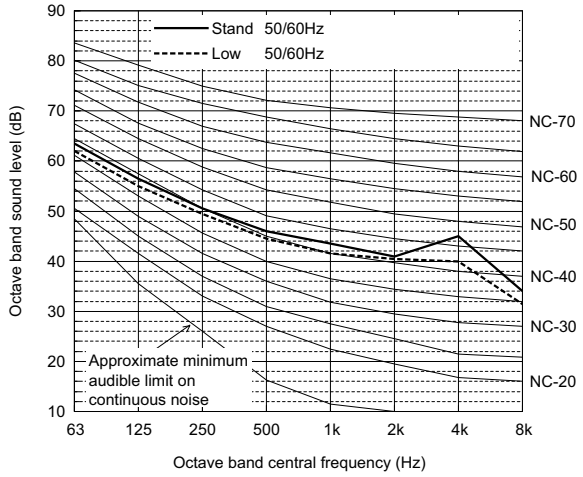
Sound level of PQHY-P550YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	66.5	58.0	51.5	46.5	45.5	42.5	46.5	38.0	52.5
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

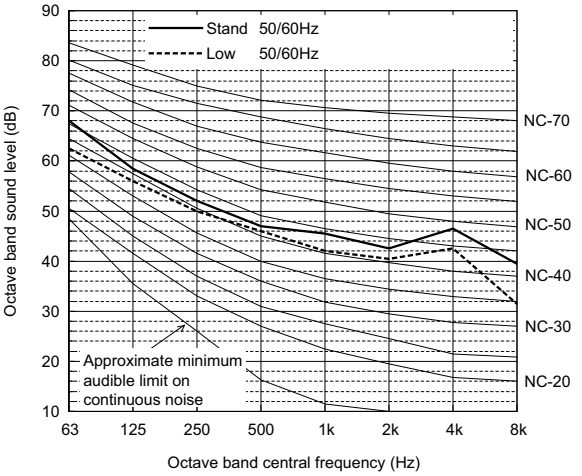
Sound level of PQHY-P450YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	63.5	56.5	50.5	46.0	43.5	41.0	45.0	34.0	51.0
Low noise mode	50/60Hz	62.0	55.0	49.5	44.5	41.5	40.5	40.0	31.5	49.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

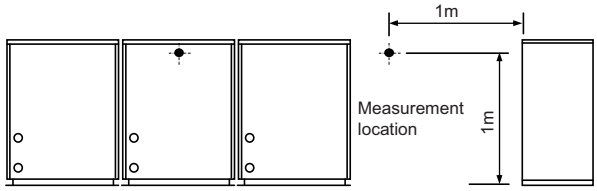
Sound level of PQHY-P600YSHM-A



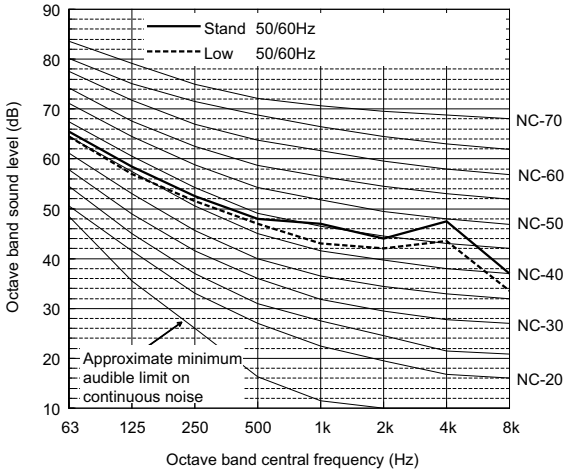
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	68.0	58.5	52.0	47.0	45.5	42.5	46.5	39.5	53.0
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Measurement condition
PQHY-P650, 700, 750, 800, 850YSHM-A



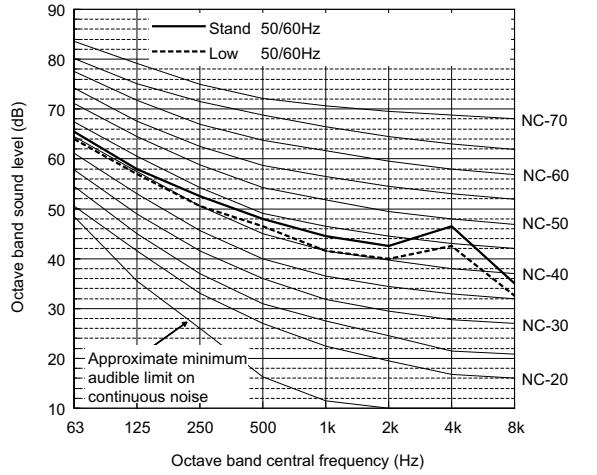
Sound level of PQHY-P750YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	65.5	58.5	52.5	48.0	47.0	44.0	47.5	37.0	54.0
Low noise mode	50/60Hz	64.5	57.0	51.5	47.0	43.0	42.0	43.5	33.5	51.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

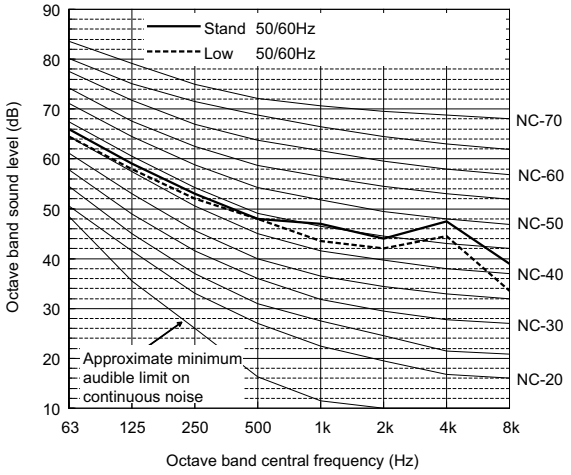
Sound level of PQHY-P650YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	65.5	58.0	52.5	48.0	44.5	42.5	46.5	35.0	53.0
Low noise mode	50/60Hz	64.0	57.0	50.5	46.5	41.5	40.0	42.5	32.5	50.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

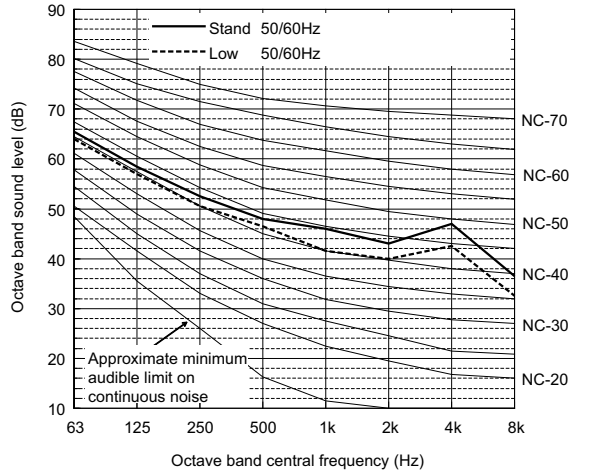
Sound level of PQHY-P800YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	66.0	59.0	53.0	48.0	47.0	44.0	47.5	39.0	54.0
Low noise mode	50/60Hz	64.5	58.0	52.0	48.0	43.5	42.0	44.5	33.5	52.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

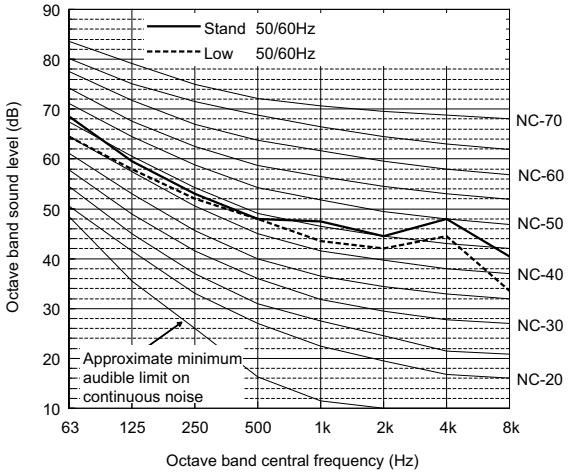
Sound level of PQHY-P700YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	65.5	58.5	52.5	48.0	46.0	43.0	47.0	36.5	53.5
Low noise mode	50/60Hz	64.0	57.0	50.5	46.5	41.5	40.0	42.5	32.5	50.5

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

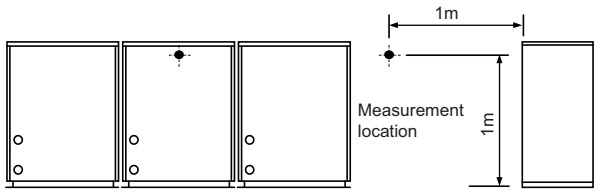
Sound level of PQHY-P850YSHM-A



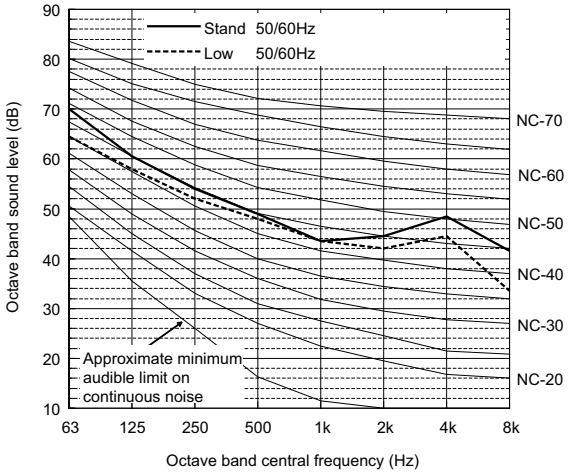
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	68.5	59.5	53.0	48.0	47.5	44.5	48.0	40.5	54.5
Low noise mode	50/60Hz	64.5	58.0	52.0	48.0	43.5	42.0	44.5	33.5	52.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Measurement condition
PQHY-P900YSHM-A



Sound level of PQHY-P900YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	70.0	60.5	54.0	49.0	43.5	44.5	48.5	41.5	55.0
Low noise mode	50/60Hz	64.5	58.0	52.0	48.0	43.5	42.0	44.5	33.5	52.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

(6) Capacity tables with indoor units

(6)-1 Cooling capacity with standard indoor units

PEFY-P-VMH-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
40 (4.5)	23	-5.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	32	0.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	41	5.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	50	10.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	68	20.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	86	30.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	104	40.0	3.6	2.9	3.7	3.0	3.9	3.0	4.0	3.2	4.0	3.1	4.0	3.0	4.0	2.9
	113	45.0	3.4	2.8	3.5	2.9	3.7	2.9	3.8	3.1	3.8	3.0	3.8	2.9	3.8	2.8
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.4	5.0	3.6	5.0	3.6	5.0	3.4	5.0	3.2
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.3	4.7	3.1
63 (7.1)	23	-5.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	32	0.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	41	5.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	50	10.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	68	20.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	86	30.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	104	40.0	5.7	4.5	5.8	4.6	6.2	4.6	6.3	4.9	6.3	4.7	6.3	4.5	6.3	4.4
	113	45.0	5.3	4.3	5.5	4.5	5.8	4.4	5.9	4.7	5.9	4.6	5.9	4.4	5.9	4.2
71 (8.0)	23	-5.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	32	0.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	41	5.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	50	10.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	68	20.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	86	30.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	104	40.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.8
	113	45.0	6.0	4.8	6.2	5.0	6.5	4.9	6.7	5.2	6.7	5.1	6.7	4.9	6.7	4.7
80 (9.0)	23	-5.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	32	0.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	41	5.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	50	10.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	68	20.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	86	30.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	104	40.0	7.2	5.7	7.4	5.8	7.8	5.8	8.0	6.1	8.0	6.0	8.0	5.7	8.0	5.5
	113	45.0	6.8	5.5	7.0	5.6	7.3	5.6	7.5	5.9	7.5	5.8	7.5	5.6	7.5	5.3
100 (11.2)	23	-5.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	32	0.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	41	5.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	50	10.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	68	20.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	86	30.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	104	40.0	9.0	7.7	9.2	8.0	9.7	7.9	10.0	8.5	10.0	8.3	10.0	8.0	10.0	7.7
	113	45.0	8.4	7.5	8.7	7.8	9.1	7.7	9.4	8.2	9.4	8.1	9.4	7.8	9.4	7.5
125 (14.0)	23	-5.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	32	0.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	41	5.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	50	10.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	68	20.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	86	30.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	104	40.0	11.2	8.8	11.5	9.1	12.1	8.9	12.5	9.5	12.5	9.3	12.5	8.9	12.5	8.5
	113	45.0	10.5	8.5	10.8	8.7	11.4	8.6	11.7	9.2	11.7	9.0	11.7	8.6	11.7	8.3
140 (16.0)	23	-5.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	32	0.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	41	5.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	50	10.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	68	20.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	86	30.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	104	40.0	12.8	10.1	13.2	10.4	13.9	10.2	14.2	10.9	14.2	10.6	14.2	10.2	14.2	9.7
	113	45.0	12.0	9.7	12.4	10.0	13.0	9.9	13.4	10.5	13.4	10.3	13.4	9.8	13.4	9.4
200 (22.4)	23	-5.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	32	0.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	41	5.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	50	10.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	68	20.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	86	30.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	104	40.0	17.9	14.5	18.4	14.9	19.4	14.7	19.9	15.7	19.9	15.4	19.9	14.7	19.9	14.1
	113	45.0	16.8	14.0	17.3	14.4	18.2	14.2	18.7	15.2	18.7	14.9	18.7	14.3	18.7	13.7
250 (28.0)	23	-5.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	32	0.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	41	5.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	50	10.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	68	20.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	86	30.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	104	40.0	22.4	18.0	23.1	18.5	24.3	18.3	24.9	19.5	24.9	19.1	24.9	18.3	24.9	17.5
	113	45.0	21.0	17.3	21.6	17.9	22.8	17.7	23.4	18.8	23.4	18.5	23.4	17.7	23.4	17.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMR-E-L/R

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	32	0.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	41	5.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	50	10.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	68	20.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	86	30.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	104	40.0	1.8	1.6	1.8	1.6	1.9	1.6	2.0	1.7	2.0	1.7	2.0	1.6	2.0	1.6
	113	45.0	1.7	1.5	1.7	1.6	1.8	1.6	1.8	1.7	1.8	1.6	1.8	1.6	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.9	2.5	1.8	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.8	2.3	1.8	2.3	1.9	2.3	1.8	2.3	1.8	2.3	1.7
32 (3.6)	23	-5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	32	0.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	41	5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	50	10.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	68	20.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	86	30.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	104	40.0	2.9	2.2	3.0	2.2	3.1	2.2	3.2	2.3	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.1	2.9	2.1	3.0	2.2	3.0	2.2	3.0	2.1	3.0	2.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMS1(L)-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
15 (1.7)	23	-5.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	32	0.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	41	5.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	50	10.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	68	20.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	86	30.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	104	40.0	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4
	113	45.0	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	32	0.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	41	5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	50	10.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	68	20.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	86	30.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	104	40.0	1.8	1.6	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.7
	113	45.0	1.7	1.6	1.7	1.6	1.8	1.6	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.6
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	1.9	2.3	1.9	2.3	2.1	2.3	2.0	2.3	2.0	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.4	3.2	2.5	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.3	3.0	2.4	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.9	4.0	3.0	4.0	3.0	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.8	3.8	2.9	3.8	2.9	3.8	2.8	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.5	5.0	3.7	5.0	3.6	5.0	3.5	5.0	3.3
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.4	4.7	3.6	4.7	3.5	4.7	3.3	4.7	3.2
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.4	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMA(L)-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.8	1.9	1.8	2.0	1.9	2.0	1.9	2.0	1.8	2.0	1.7
	113	45.0	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	1.9	2.5	2.1	2.5	2.0	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.8	2.2	1.9	2.3	1.9	2.3	2.0	2.3	2.0	2.3	1.9	2.3	1.8
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.2	3.0	2.4	3.0	2.3	3.0	2.2	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	32	0.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	41	5.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	50	10.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	68	20.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	86	30.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	104	40.0	3.6	3.1	3.7	3.2	3.9	3.2	4.0	3.4	4.0	3.3	4.0	3.2	4.0	3.1
	113	45.0	3.4	3.0	3.5	3.1	3.7	3.1	3.8	3.3	3.8	3.3	3.8	3.1	3.8	3.0
50 (5.6)	23	-5.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	32	0.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	41	5.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	50	10.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	68	20.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	86	30.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	104	40.0	4.5	3.8	4.6	4.0	4.9	3.9	5.0	4.2	5.0	4.1	5.0	3.9	5.0	3.8
	113	45.0	4.2	3.7	4.3	3.8	4.6	3.8	4.7	4.1	4.7	4.0	4.7	3.8	4.7	3.7
63 (7.1)	23	-5.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	32	0.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	41	5.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	50	10.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	68	20.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	86	30.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	104	40.0	5.7	4.7	5.8	4.9	6.2	4.8	6.3	5.1	6.3	5.0	6.3	4.8	6.3	4.6
	113	45.0	5.3	4.6	5.5	4.7	5.8	4.7	5.9	5.0	5.9	4.9	5.9	4.7	5.9	4.5
71 (8.0)	23	-5.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	32	0.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	41	5.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	50	10.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	68	20.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	86	30.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	104	40.0	6.4	5.1	6.6	5.3	6.9	5.2	7.1	5.5	7.1	5.4	7.1	5.2	7.1	5.0
	113	45.0	6.0	4.9	6.2	5.1	6.5	5.0	6.7	5.3	6.7	5.2	6.7	5.0	6.7	4.8
80 (9.0)	23	-5.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	32	0.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	41	5.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	50	10.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	68	20.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	86	30.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	104	40.0	7.2	5.5	7.4	5.6	7.8	5.5	8.0	5.8	8.0	5.7	8.0	5.5	8.0	5.2
	113	45.0	6.8	5.2	7.0	5.4	7.3	5.3	7.5	5.6	7.5	5.5	7.5	5.3	7.5	5.0
100 (11.2)	23	-5.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	32	0.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	41	5.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	50	10.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	68	20.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	86	30.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	104	40.0	9.0	7.6	9.2	7.9	9.7	7.8	10.0	8.3	10.0	8.2	10.0	7.8	10.0	7.5
	113	45.0	8.4	7.4	8.7	7.6	9.1	7.5	9.4	8.1	9.4	7.9	9.4	7.6	9.4	7.4
125 (14.0)	23	-5.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	32	0.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	41	5.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	50	10.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	68	20.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	86	30.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	104	40.0	11.2	9.2	11.5	9.5	12.1	9.4	12.5	10.0	12.5	9.8	12.5	9.4	12.5	9.1
	113	45.0	10.5	8.9	10.8	9.2	11.4	9.1	11.7	9.7	11.7	9.5	11.7	9.2	11.7	8.8
140 (16.0)	23	-5.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	32	0.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	41	5.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	50	10.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	68	20.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	86	30.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	104	40.0	12.8	10.4	13.2	10.8	13.9	10.6	14.2	11.3	14.2	11.1	14.2	10.6	14.2	10.2
	113	45.0	12.0	10.1	12.4	10.4	13.0	10.3	13.4	11.0	13.4	10.7	13.4	10.3	13.4	9.9

kcal/h=kW x 860 , BTU/h = kW x 3,412

PMFY-P-VBM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.7
	113	45.0	1.7	1.6	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	32	0.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	41	5.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	50	10.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	68	20.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	86	30.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	104	40.0	2.2	2.0	2.3	2.1	2.4	2.1	2.5	2.2	2.5	2.2	2.5	2.1	2.5	2.0
	113	45.0	2.1	2.0	2.2	2.0	2.3	2.0	2.3	2.2	2.3	2.1	2.3	2.1	2.3	2.0
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.3	3.0	2.4	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.9	4.0	3.0	4.0	3.0	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.8	3.8	2.9	3.8	2.9	3.8	2.7	3.8	2.6

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VLMD-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.8	1.9	1.8	2.0	1.9	2.0	1.9	2.0	1.8	2.0	1.8
	113	45.0	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	1.9	2.3	1.9	2.3	2.1	2.3	2.0	2.3	1.9	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.2	3.0	2.4	3.0	2.3	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	32	0.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	41	5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	50	10.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	68	20.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	86	30.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	104	40.0	3.6	2.6	3.7	2.7	3.9	2.7	4.0	2.8	4.0	2.7	4.0	2.6	4.0	2.5
	113	45.0	3.4	2.5	3.5	2.6	3.7	2.6	3.8	2.7	3.8	2.6	3.8	2.5	3.8	2.4
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.4	5.0	3.6	5.0	3.6	5.0	3.4	5.0	3.2
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.3	4.7	3.1
63 (7.1)	23	-5.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	32	0.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	41	5.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	50	10.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	68	20.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	86	30.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	104	40.0	5.7	4.2	5.8	4.3	6.2	4.2	6.3	4.5	6.3	4.4	6.3	4.1	6.3	4.0
	113	45.0	5.3	4.0	5.5	4.1	5.8	4.1	5.9	4.3	5.9	4.2	5.9	4.0	5.9	3.8
80 (9.0)	23	-5.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	32	0.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	41	5.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	50	10.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	68	20.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	86	30.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	104	40.0	7.2	5.6	7.4	5.7	7.8	5.7	8.0	6.0	8.0	5.9	8.0	5.6	8.0	5.4
	113	45.0	6.8	5.4	7.0	5.5	7.3	5.5	7.5	5.8	7.5	5.7	7.5	5.4	7.5	5.2
100 (11.2)	23	-5.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	32	0.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	41	5.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	50	10.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	68	20.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	86	30.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.2	10.0	6.9	10.0	6.6
	113	45.0	8.4	6.6	8.7	6.8	9.1	6.7	9.4	7.1	9.4	6.9	9.4	6.6	9.4	6.3
125 (14.0)	23	-5.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	32	0.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	41	5.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	50	10.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	68	20.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	86	30.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	104	40.0	11.2	8.7	11.5	9.0	12.1	8.9	12.5	9.4	12.5	9.2	12.5	8.8	12.5	8.4
	113	45.0	10.5	8.4	10.8	8.7	11.4	8.5	11.7	9.1	11.7	8.9	11.7	8.5	11.7	8.2

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VCM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	32	0.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	41	5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	50	10.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	68	20.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	86	30.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	104	40.0	1.8	1.6	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.6
	113	45.0	1.7	1.6	1.7	1.6	1.8	1.6	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.6
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	2.0	2.3	1.9	2.3	2.1	2.3	2.0	2.3	2.0	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.4	3.2	2.5	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.3	2.8	2.3	2.9	2.3	3.0	2.5	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	32	0.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	41	5.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	50	10.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	68	20.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	86	30.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	104	40.0	3.6	2.7	3.7	2.8	3.9	2.7	4.0	2.9	4.0	2.8	4.0	2.7	4.0	2.6
	113	45.0	3.4	2.6	3.5	2.7	3.7	2.6	3.8	2.8	3.8	2.7	3.8	2.6	3.8	2.5

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VBM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
32 (3.6)	23	-5.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	32	0.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	41	5.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	50	10.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	68	20.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	86	30.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	104	40.0	2.9	2.6	3.0	2.7	3.1	2.7	3.2	2.8	3.2	2.8	3.2	2.7	3.2	2.6
	113	45.0	2.7	2.5	2.8	2.6	2.9	2.6	3.0	2.8	3.0	2.7	3.0	2.6	3.0	2.5
40 (4.5)	23	-5.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	32	0.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	41	5.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	50	10.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	68	20.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	86	30.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	104	40.0	3.6	3.1	3.7	3.3	3.9	3.2	4.0	3.4	4.0	3.4	4.0	3.2	4.0	3.1
	113	45.0	3.4	3.0	3.5	3.2	3.7	3.1	3.8	3.3	3.8	3.3	3.8	3.2	3.8	3.1
50 (5.6)	23	-5.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	32	0.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	41	5.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	50	10.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	68	20.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	86	30.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	104	40.0	4.5	3.6	4.6	3.7	4.9	3.6	5.0	3.9	5.0	3.8	5.0	3.6	5.0	3.5
	113	45.0	4.2	3.5	4.3	3.6	4.6	3.5	4.7	3.8	4.7	3.7	4.7	3.5	4.7	3.4
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	32	0.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	41	5.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	50	10.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	68	20.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	86	30.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	104	40.0	5.7	4.4	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.4	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.3	5.9	4.6	5.9	4.5	5.9	4.3	5.9	4.1
80 (9.0)	23	-5.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	32	0.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	41	5.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	50	10.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	68	20.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	86	30.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	104	40.0	7.2	5.4	7.4	5.6	7.8	5.5	8.0	5.8	8.0	5.7	8.0	5.4	8.0	5.2
	113	45.0	6.8	5.2	7.0	5.4	7.3	5.3	7.5	5.6	7.5	5.5	7.5	5.2	7.5	5.0
100 (11.2)	23	-5.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	32	0.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	41	5.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	50	10.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	68	20.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	86	30.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.1	10.0	6.8	10.0	6.5
	113	45.0	8.4	6.5	8.7	6.7	9.1	6.6	9.4	7.0	9.4	6.9	9.4	6.6	9.4	6.3
125 (14.0)	23	-5.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	32	0.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	41	5.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	50	10.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	68	20.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	86	30.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	104	40.0	11.2	8.2	11.5	8.4	12.1	8.3	12.5	8.8	12.5	8.6	12.5	8.2	12.5	7.8
	113	45.0	10.5	7.9	10.8	8.1	11.4	8.0	11.7	8.4	11.7	8.2	11.7	7.9	11.7	7.5

kcal/h=kW x 860 , BTU/h = kW x 3,412

PCFY-P-VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	104	40.0	3.6	2.7	3.7	2.8	3.9	2.8	4.0	2.9	4.0	2.9	4.0	2.7	4.0	2.6
	113	45.0	3.4	2.6	3.5	2.7	3.7	2.7	3.8	2.8	3.8	2.8	3.8	2.7	3.8	2.5
63 (7.1)	23	-5.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	32	0.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	41	5.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	50	10.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	68	20.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	86	30.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	104	40.0	5.7	4.2	5.8	4.4	6.2	4.3	6.3	4.5	6.3	4.4	6.3	4.2	6.3	4.0
	113	45.0	5.3	4.1	5.5	4.2	5.8	4.1	5.9	4.4	5.9	4.3	5.9	4.1	5.9	3.9
100 (11.2)	23	-5.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	32	0.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	41	5.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	50	10.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	68	20.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	86	30.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	104	40.0	9.0	6.6	9.2	6.7	9.7	6.6	10.0	7.0	10.0	6.8	10.0	6.5	10.0	6.2
	113	45.0	8.4	6.3	8.7	6.5	9.1	6.4	9.4	6.7	9.4	6.6	9.4	6.3	9.4	6.0
125 (14.0)	23	-5.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	32	0.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	41	5.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	50	10.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	68	20.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	86	30.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	104	40.0	11.2	8.2	11.5	8.4	12.1	8.2	12.5	8.7	12.5	8.5	12.5	8.1	12.5	7.7
	113	45.0	10.5	7.8	10.8	8.0	11.4	7.9	11.7	8.3	11.7	8.1	11.7	7.8	11.7	7.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

PKFY-P-VBM-E,VHM-E,VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
15 (1.7)	23	-5.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	32	0.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	41	5.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	50	10.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	68	20.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	86	30.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	104	40.0	1.4	1.0	1.4	1.1	1.5	1.1	1.5	1.1	1.5	1.1	1.5	1.0	1.5	1.0
	113	45.0	1.3	1.0	1.3	1.0	1.4	1.0	1.4	1.1	1.4	1.1	1.4	1.0	1.4	1.0
20 (2.2)	23	-5.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	32	0.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	41	5.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	50	10.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	68	20.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	86	30.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	104	40.0	1.8	1.3	1.8	1.4	1.9	1.3	2.0	1.4	2.0	1.4	2.0	1.3	2.0	1.3
	113	45.0	1.7	1.3	1.7	1.3	1.8	1.3	1.8	1.4	1.8	1.3	1.8	1.3	1.8	1.2
25 (2.8)	23	-5.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	32	0.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	41	5.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	50	10.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	68	20.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	86	30.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	104	40.0	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.8	2.5	1.7	2.5	1.6	2.5	1.6
	113	45.0	2.1	1.6	2.2	1.6	2.3	1.6	2.3	1.7	2.3	1.7	2.3	1.6	2.3	1.5
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	104	40.0	2.9	2.4	3.0	2.4	3.1	2.4	3.2	2.6	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.3	2.8	2.4	2.9	2.3	3.0	2.5	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	32	0.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	41	5.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	50	10.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	68	20.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	86	30.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	104	40.0	3.6	2.9	3.7	3.0	3.9	2.9	4.0	3.1	4.0	3.0	4.0	2.9	4.0	2.8
	113	45.0	3.4	2.8	3.5	2.9	3.7	2.8	3.8	3.0	3.8	2.9	3.8	2.8	3.8	2.7
50 (5.6)	23	-5.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	32	0.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	41	5.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	50	10.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	68	20.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	86	30.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	104	40.0	4.5	3.4	4.6	3.4	4.9	3.4	5.0	3.6	5.0	3.5	5.0	3.3	5.0	3.2
	113	45.0	4.2	3.2	4.3	3.3	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.2	4.7	3.1
63 (7.1)	23	-5.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	32	0.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	41	5.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	50	10.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	68	20.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	86	30.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	104	40.0	5.7	4.7	5.8	4.8	6.2	4.8	6.3	5.1	6.3	5.0	6.3	4.8	6.3	4.6
	113	45.0	5.3	4.5	5.5	4.7	5.8	4.6	5.9	4.9	5.9	4.8	5.9	4.7	5.9	4.5
100 (11.2)	23	-5.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	32	0.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	41	5.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	50	10.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	68	20.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	86	30.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.1	10.0	6.8	10.0	6.5
	113	45.0	8.4	6.5	8.7	6.7	9.1	6.6	9.4	7.0	9.4	6.9	9.4	6.6	9.4	6.3

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.6	2.0	1.7	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.9	2.5	1.8	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.8	2.3	1.8	2.3	1.9	2.3	1.8	2.3	1.8	2.3	1.7
32 (3.6)	23	-5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	32	0.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	41	5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	50	10.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	68	20.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	86	30.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	104	40.0	2.9	2.1	3.0	2.2	3.1	2.2	3.2	2.3	3.2	2.2	3.2	2.1	3.2	2.0
	113	45.0	2.7	2.1	2.8	2.1	2.9	2.1	3.0	2.2	3.0	2.2	3.0	2.1	3.0	2.0
40 (4.5)	23	-5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	32	0.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	41	5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	50	10.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	68	20.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	86	30.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	104	40.0	3.6	2.6	3.7	2.7	3.9	2.7	4.0	2.8	4.0	2.8	4.0	2.6	4.0	2.5
	113	45.0	3.4	2.5	3.5	2.6	3.7	2.6	3.8	2.7	3.8	2.6	3.8	2.5	3.8	2.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VLEM-E,VLRM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.5	2.0	1.6	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.7	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.8	2.5	1.7	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.7	2.3	1.7	2.3	1.8	2.3	1.8	2.3	1.7	2.3	1.6
32 (3.6)	23	-5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	32	0.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	41	5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	50	10.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	68	20.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	86	30.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	104	40.0	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.4	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.2	2.9	2.2	3.0	2.3	3.0	2.2	3.0	2.1	3.0	2.1
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.8	4.0	3.0	4.0	2.9	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.7	3.8	2.9	3.8	2.8	3.8	2.7	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	32	0.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	41	5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	50	10.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	68	20.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	86	30.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	104	40.0	4.5	3.5	4.6	3.6	4.9	3.6	5.0	3.8	5.0	3.7	5.0	3.6	5.0	3.4
	113	45.0	4.2	3.4	4.3	3.5	4.6	3.4	4.7	3.7	4.7	3.6	4.7	3.4	4.7	3.3
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.3	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VLRMM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.5	2.0	1.6	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.7	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.8	2.5	1.7	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.7	2.3	1.7	2.3	1.8	2.3	1.8	2.3	1.7	2.3	1.6
32 (3.6)	23	-5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	32	0.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	41	5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	50	10.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	68	20.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	86	30.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	104	40.0	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.4	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.2	2.9	2.2	3.0	2.3	3.0	2.2	3.0	2.1	3.0	2.1
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.8	4.0	3.0	4.0	2.9	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.7	3.8	2.9	3.8	2.8	3.8	2.7	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	32	0.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	41	5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	50	10.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	68	20.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	86	30.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	104	40.0	4.5	3.5	4.6	3.6	4.9	3.6	5.0	3.8	5.0	3.7	5.0	3.6	5.0	3.4
	113	45.0	4.2	3.4	4.3	3.5	4.6	3.4	4.7	3.7	4.7	3.6	4.7	3.4	4.7	3.3
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.3	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

(6)-2 Heating capacity with standard indoor units

SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.				
			59°FDB 15.0°CDB	66°FDB 19.0°CDB	68°FDB 20.0°CDB	77°FDB 25.0°CDB	81°FDB 27.0°CDB
	°F	°C	SHC	SHC	SHC	SHC	SHC
15 (1.7)	23	-5.0	1.2	1.2	1.2	1.0	0.9
	32	0.0	1.4	1.4	1.4	1.2	1.1
	41	5.0	1.6	1.6	1.6	1.3	1.2
	50	10.0	1.8	1.8	1.8	1.5	1.3
	68	20.0	1.9	1.9	1.9	1.6	1.4
	86	30.0	1.9	1.9	1.9	1.6	1.4
	104	40.0	1.9	1.9	1.9	1.6	1.4
	113	45.0	1.9	1.9	1.9	1.6	1.4
20 (2.5)	23	-5.0	1.6	1.6	1.6	1.3	1.2
	32	0.0	1.9	1.9	1.9	1.5	1.4
	41	5.0	2.1	2.1	2.1	1.7	1.6
	50	10.0	2.3	2.3	2.3	1.9	1.8
	68	20.0	2.5	2.5	2.5	2.1	1.9
	86	30.0	2.5	2.5	2.5	2.1	1.9
	104	40.0	2.5	2.5	2.5	2.1	1.9
	113	45.0	2.5	2.5	2.5	2.1	1.9
25 (3.2)	23	-5.0	2.1	2.1	2.1	1.7	1.6
	32	0.0	2.4	2.4	2.4	2.0	1.8
	41	5.0	2.7	2.7	2.7	2.2	2.0
	50	10.0	3.0	3.0	3.0	2.5	2.2
	68	20.0	3.2	3.2	3.2	2.6	2.4
	86	30.0	3.2	3.2	3.2	2.6	2.4
	104	40.0	3.2	3.2	3.2	2.6	2.4
	113	45.0	3.2	3.2	3.2	2.6	2.4
32 (4.0)	23	-5.0	2.6	2.6	2.6	2.2	2.0
	32	0.0	3.0	3.0	3.0	2.5	2.2
	41	5.0	3.4	3.4	3.4	2.8	2.5
	50	10.0	3.7	3.7	3.7	3.1	2.8
	68	20.0	4.0	4.0	4.0	3.3	3.0
	86	30.0	4.0	4.0	4.0	3.3	3.0
	104	40.0	4.0	4.0	4.0	3.3	3.0
	113	45.0	4.0	4.0	4.0	3.3	3.0
40 (5.0)	23	-5.0	3.3	3.3	3.3	2.7	2.5
	32	0.0	3.7	3.7	3.7	3.1	2.8
	41	5.0	4.2	4.2	4.2	3.5	3.2
	50	10.0	4.7	4.7	4.7	3.8	3.5
	68	20.0	5.0	5.0	5.0	4.1	3.8
	86	30.0	5.0	5.0	5.0	4.1	3.8
	104	40.0	5.0	5.0	5.0	4.1	3.8
	113	45.0	5.0	5.0	5.0	4.1	3.8
50 (6.3)	23	-5.0	4.1	4.1	4.1	3.4	3.1
	32	0.0	4.7	4.7	4.7	3.9	3.5
	41	5.0	5.3	5.3	5.3	4.4	4.0
	50	10.0	5.9	5.9	5.9	4.8	4.4
	68	20.0	6.3	6.3	6.3	5.2	4.7
	86	30.0	6.3	6.3	6.3	5.2	4.7
	104	40.0	6.3	6.3	6.3	5.2	4.7
	113	45.0	6.3	6.3	6.3	5.2	4.7
63 (8.0)	23	-5.0	5.2	5.2	5.2	4.3	3.9
	32	0.0	6.0	6.0	6.0	4.9	4.5
	41	5.0	6.7	6.7	6.7	5.5	5.1
	50	10.0	7.5	7.5	7.5	6.1	5.6
	68	20.0	8.0	8.0	8.0	6.6	6.0
	86	30.0	8.0	8.0	8.0	6.6	6.0
	104	40.0	8.0	8.0	8.0	6.6	6.0
	113	45.0	8.0	8.0	8.0	6.6	6.0
71 (9.0)	23	-5.0	5.9	5.9	5.9	4.8	4.4
	32	0.0	6.7	6.7	6.7	5.5	5.1
	41	5.0	7.6	7.6	7.6	6.2	5.7
	50	10.0	8.4	8.4	8.4	6.9	6.3
	68	20.0	9.0	9.0	9.0	7.4	6.8
	86	30.0	9.0	9.0	9.0	7.4	6.8
	104	40.0	9.0	9.0	9.0	7.4	6.8
	113	45.0	9.0	9.0	9.0	7.4	6.8
80 (10.0)	23	-5.0	6.5	6.5	6.5	5.4	4.9
	32	0.0	7.5	7.5	7.5	6.1	5.6
	41	5.0	8.4	8.4	8.4	6.9	6.3
	50	10.0	9.3	9.3	9.3	7.7	7.0
	68	20.0	10.0	10.0	10.0	8.2	7.5
	86	30.0	10.0	10.0	10.0	8.2	7.5
	104	40.0	10.0	10.0	10.0	8.2	7.5
	113	45.0	10.0	10.0	10.0	8.2	7.5
100 (12.5)	23	-5.0	8.2	8.2	8.2	6.7	6.1
	32	0.0	9.3	9.3	9.3	7.7	7.0
	41	5.0	10.5	10.5	10.5	8.6	7.9
	50	10.0	11.7	11.7	11.7	9.6	8.8
	68	20.0	12.5	12.5	12.5	10.3	9.4
	86	30.0	12.5	12.5	12.5	10.3	9.4
	104	40.0	12.5	12.5	12.5	10.3	9.4
	113	45.0	12.5	12.5	12.5	10.3	9.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.				
			59°FDB 15.0°CDB	66°FDB 19.0°CDB	68°FDB 20.0°CDB	77°FDB 25.0°CDB	81°FDB 27.0°CDB
	°F	°C	SHC	SHC	SHC	SHC	SHC
125 (16.0)	23	-5.0	10.5	10.5	10.5	8.6	7.9
	32	0.0	12.0	12.0	12.0	9.8	9.0
	41	5.0	13.4	13.4	13.4	11.1	10.1
	50	10.0	14.9	14.9	14.9	12.3	11.2
	68	20.0	16.0	16.0	16.0	13.2	12.0
	86	30.0	16.0	16.0	16.0	13.2	12.0
	104	40.0	16.0	16.0	16.0	13.2	12.0
	113	45.0	16.0	16.0	16.0	13.2	12.0
140 (18.0)	23	-5.0	11.8	11.8	11.8	9.7	8.8
	32	0.0	13.4	13.4	13.4	11.1	10.1
	41	5.0	15.1	15.1	15.1	12.4	11.4
	50	10.0	16.8	16.8	16.8	13.8	12.6
	68	20.0	18.0	18.0	18.0	14.8	13.5
	86	30.0	18.0	18.0	18.0	14.8	13.5
	104	40.0	18.0	18.0	18.0	14.8	13.5
	113	45.0	18.0	18.0	18.0	14.8	13.5
200 (25.0)	23	-5.0	16.3	16.3	16.3	13.4	12.3
	32	0.0	18.7	18.7	18.7	15.4	14.0
	41	5.0	21.0	21.0	21.0	17.3	15.8
	50	10.0	23.3	23.3	23.3	19.2	17.5
	68	20.0	25.0	25.0	25.0	20.6	18.8
	86	30.0	25.0	25.0	25.0	20.6	18.8
	104	40.0	25.0	25.0	25.0	20.6	18.8
	113	45.0	25.0	25.0	25.0	20.6	18.8
250 (31.5)	23	-5.0	20.6	20.6	20.6	16.9	15.5
	32	0.0	23.5	23.5	23.5	19.4	17.7
	41	5.0	26.5	26.5	26.5	21.8	19.9
	50	10.0	29.4	29.4	29.4	24.2	22.1
	68	20.0	31.5	31.5	31.5	25.9	23.7
	86	30.0	31.5	31.5	31.5	25.9	23.7
	104	40.0	31.5	31.5	31.5	25.9	23.7
	113	45.0	31.5	31.5	31.5	25.9	23.7

kcal/h=kW x 860 , BTU/h = kW x 3,412

(7) Correction by total indoor

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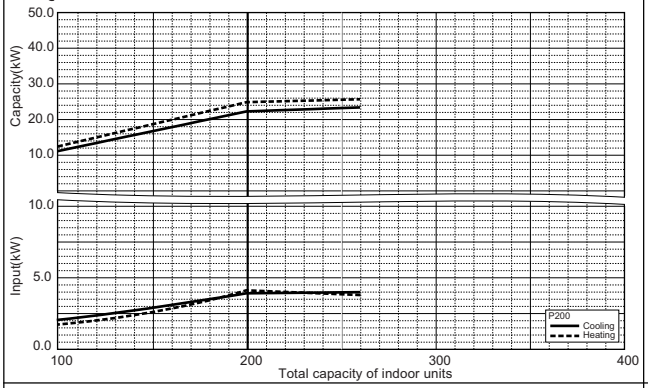

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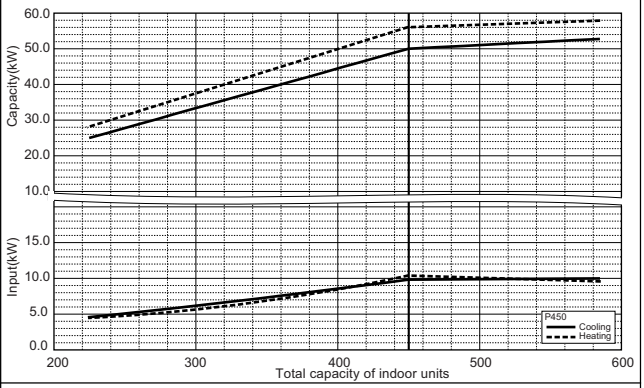

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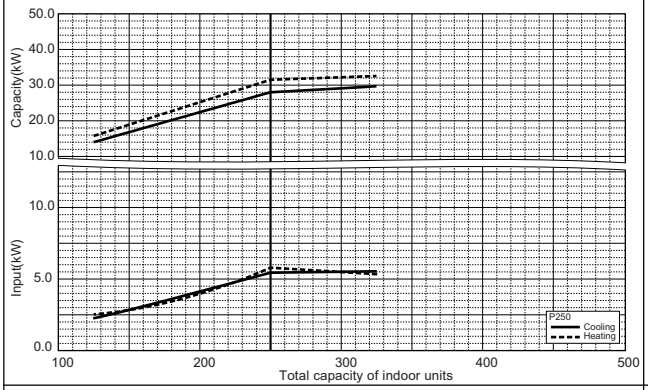

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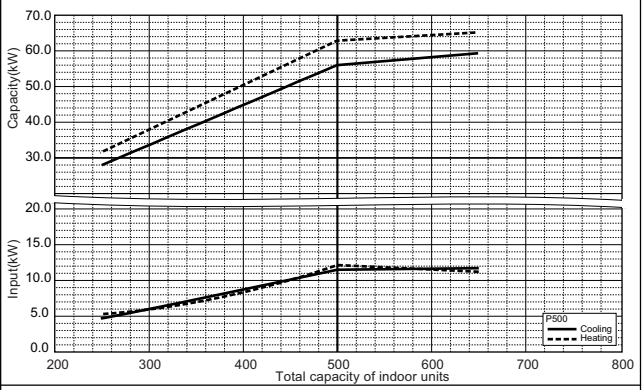

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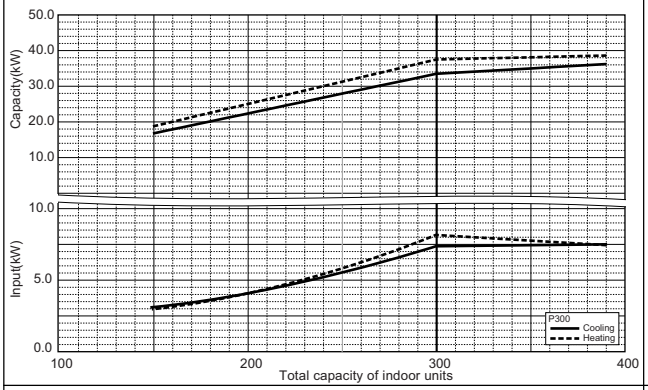

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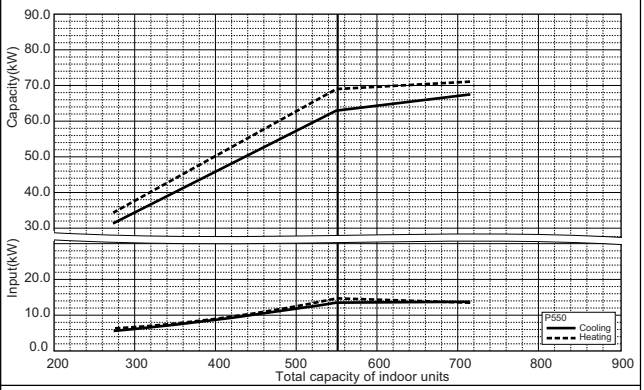

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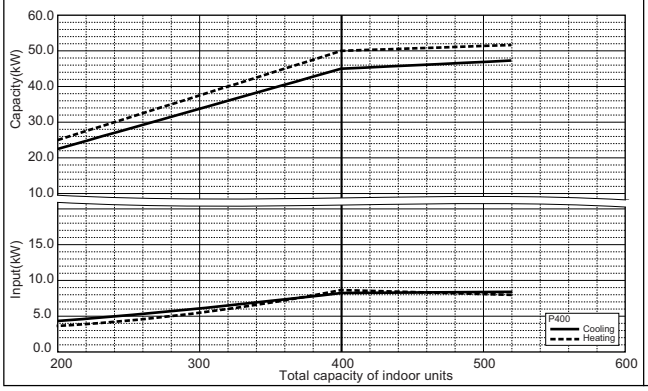

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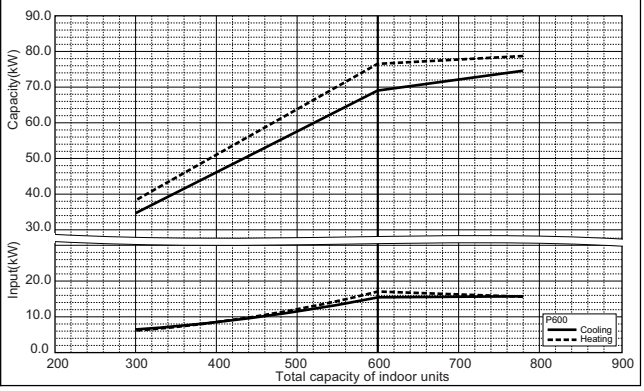

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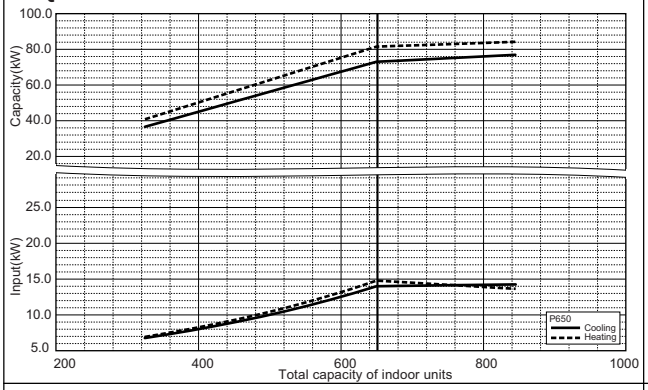

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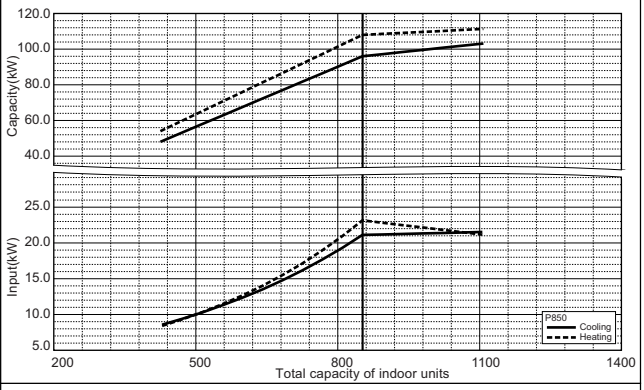

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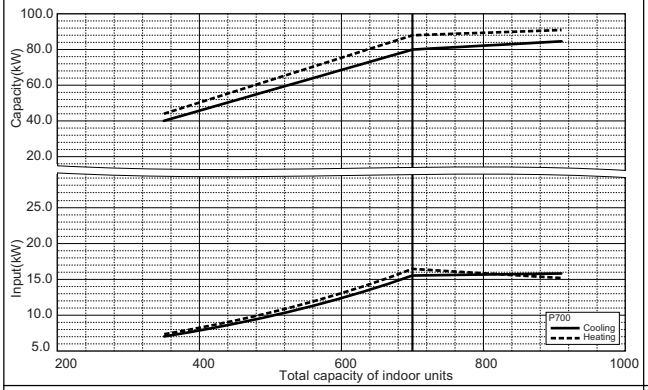

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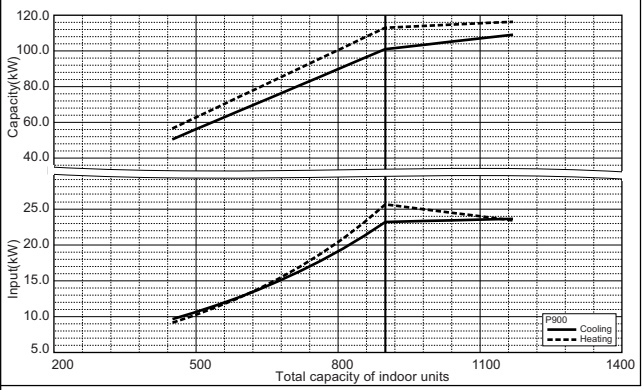

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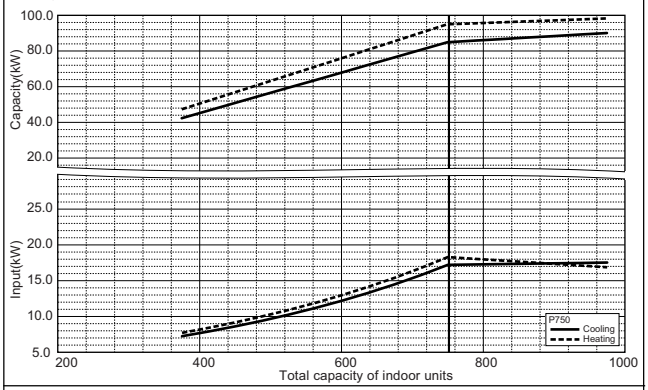

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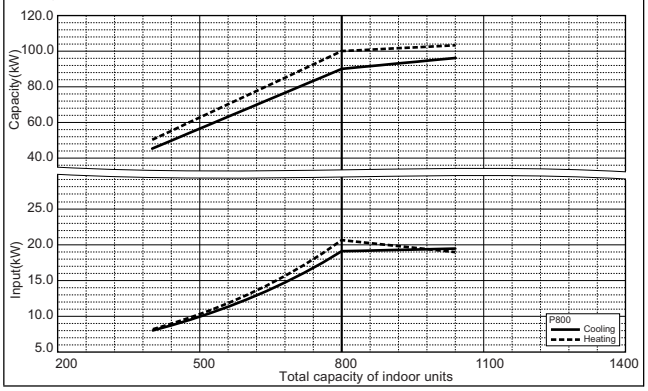
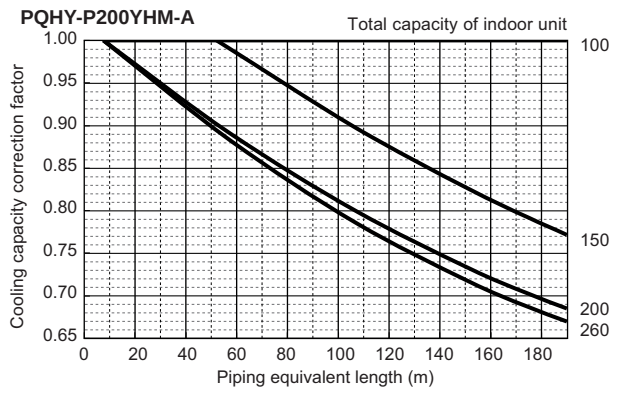
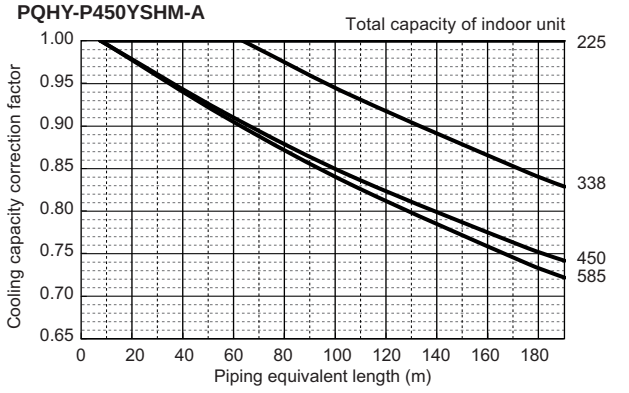
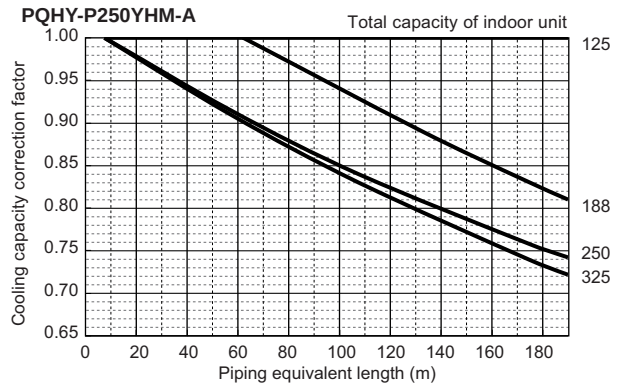


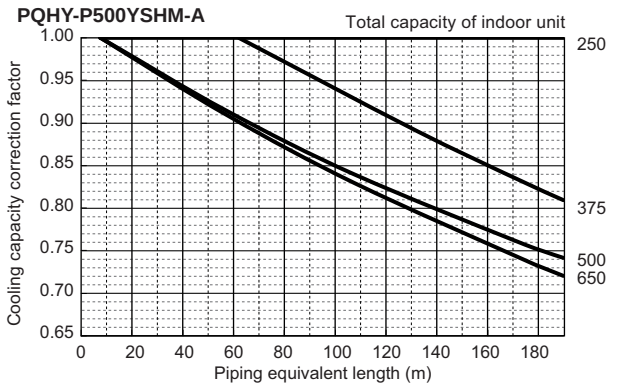
(8) Correction by refrigerant piping length

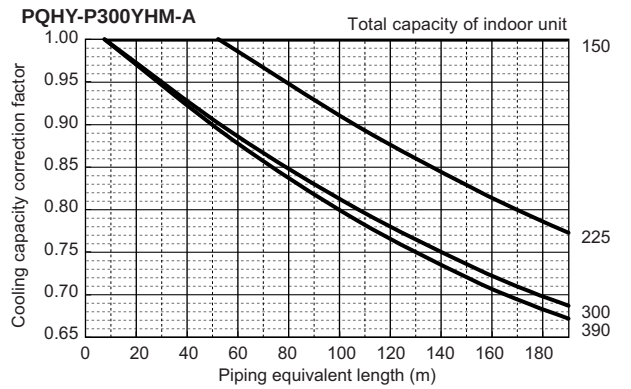
Cooling

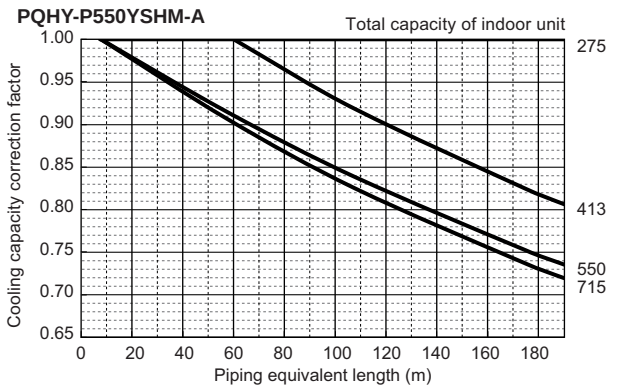


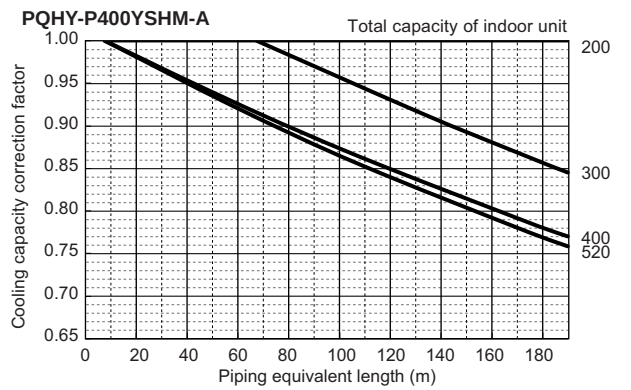


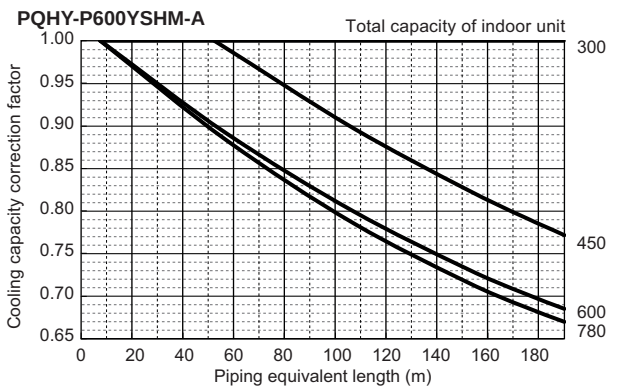












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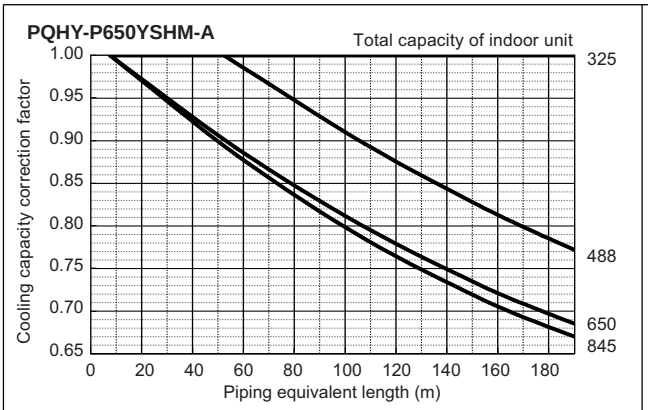

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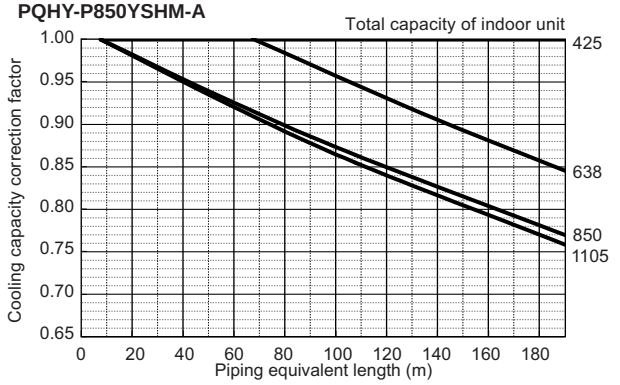

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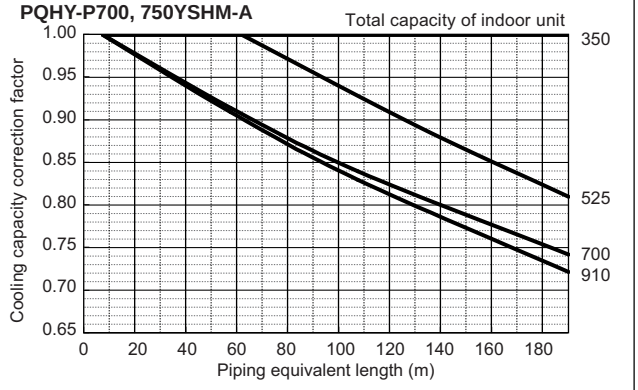

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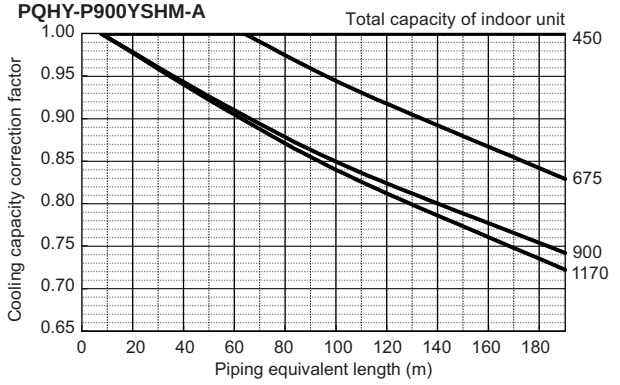

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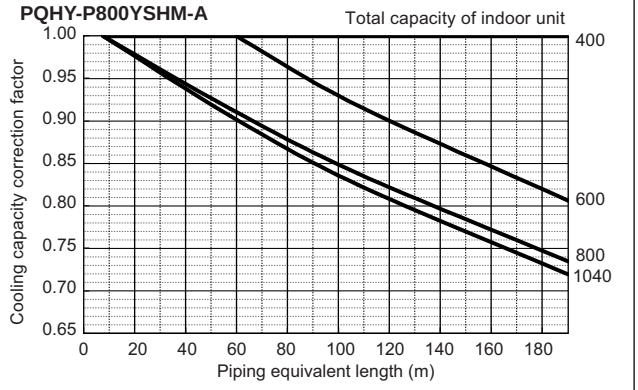

Heating

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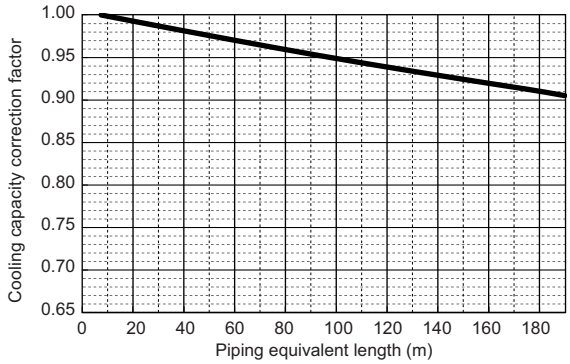

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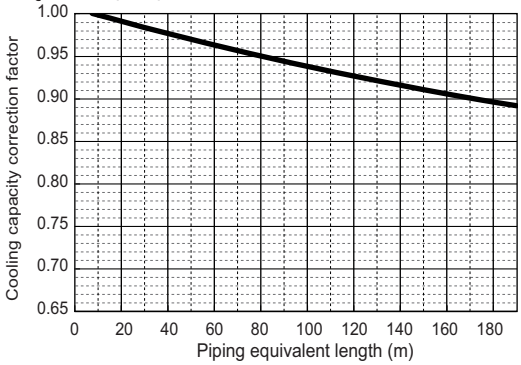
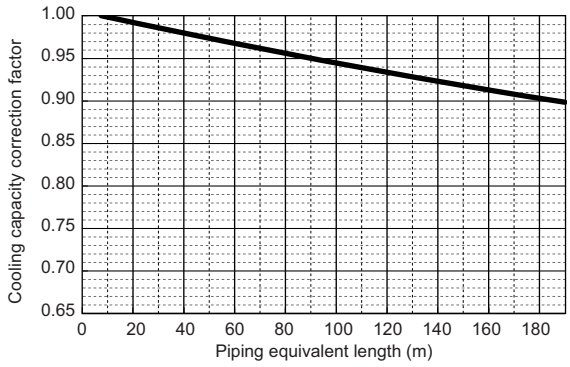
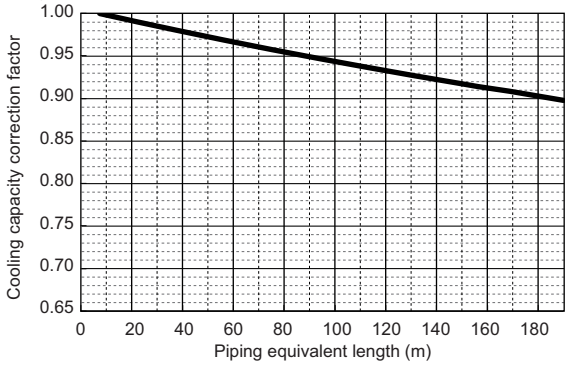


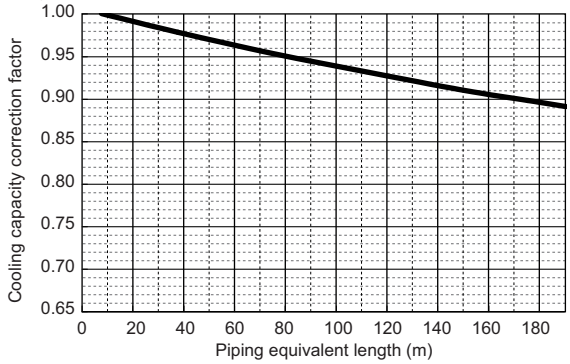
PQHY-P250, 300YHM-A



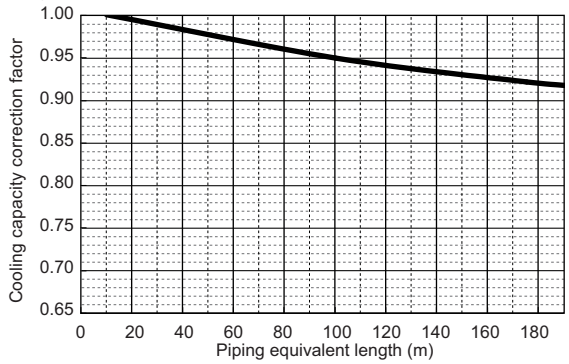
PQHY-P550, 600YSHM-A



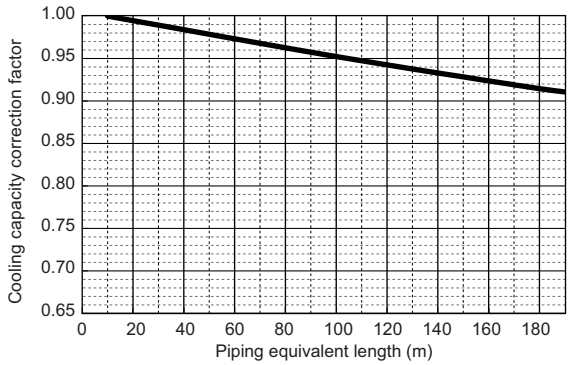
PQHY-P650YSHM-A



PQHY-P850, 900YSHM-A



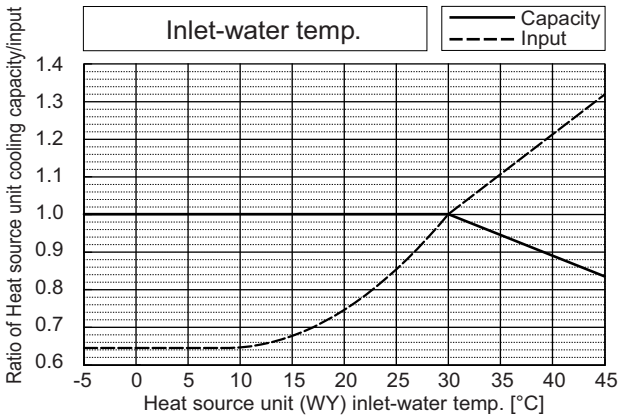
PQHY-P700, 750, 800YSHM-A



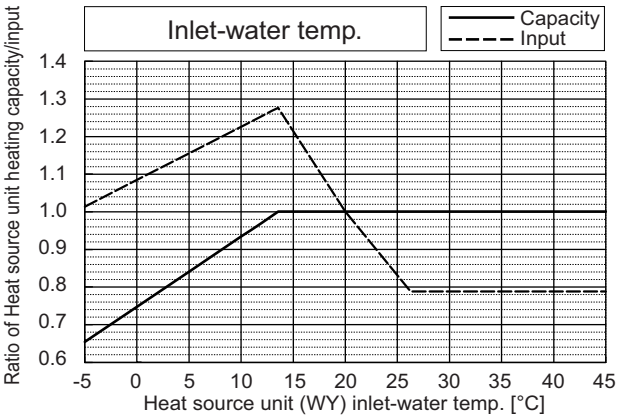
(9) Correction by water temperature (For heat source unit)

(9)-1 Connection with standard CITY MULTI indoor units

Cooling

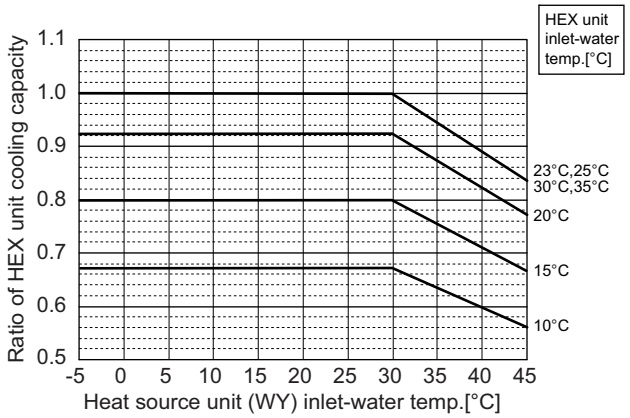


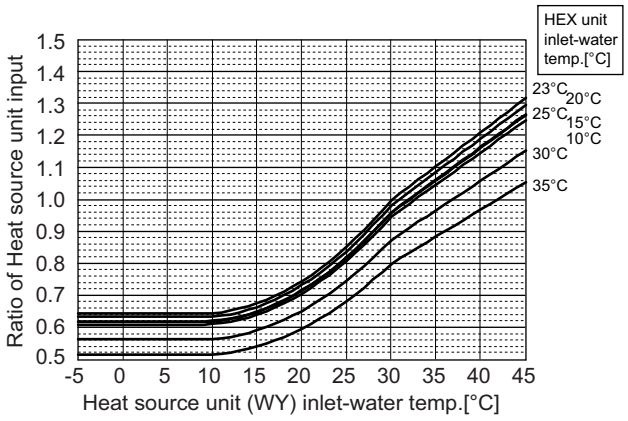
Heating



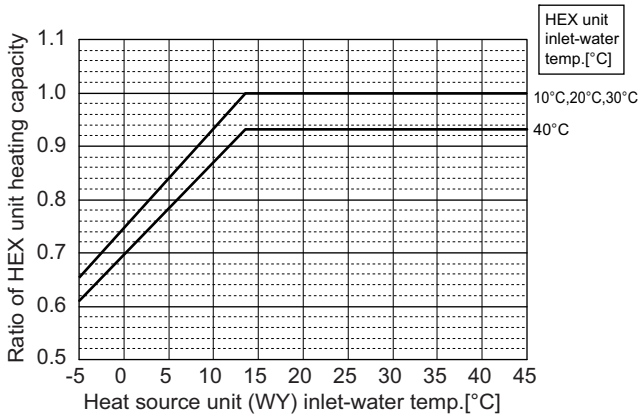
(9)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

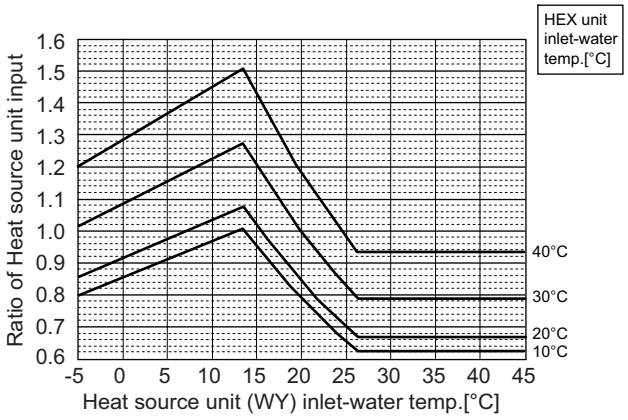
Cooling





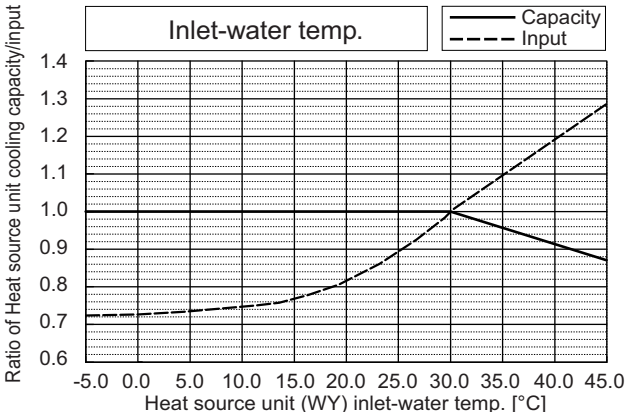
Heating





(9)-3 Connection with PFD-P250/500VM-E

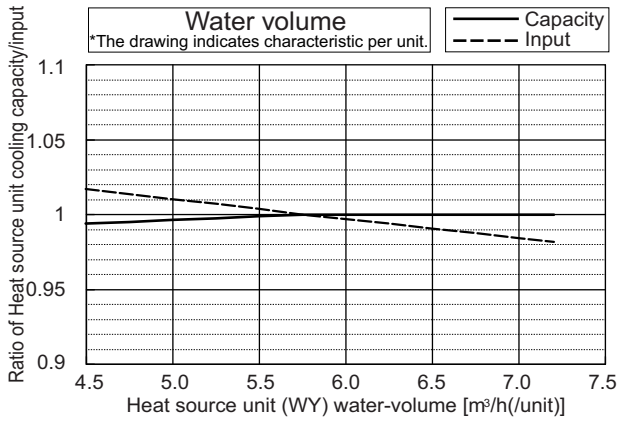
Cooling



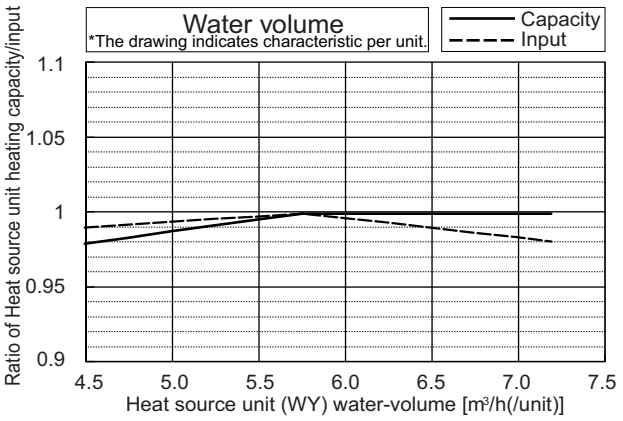
(10) Correction by water flow rate (For heat source unit)

(10)-1 Connection with standard CITY MULTI indoor units

Cooling

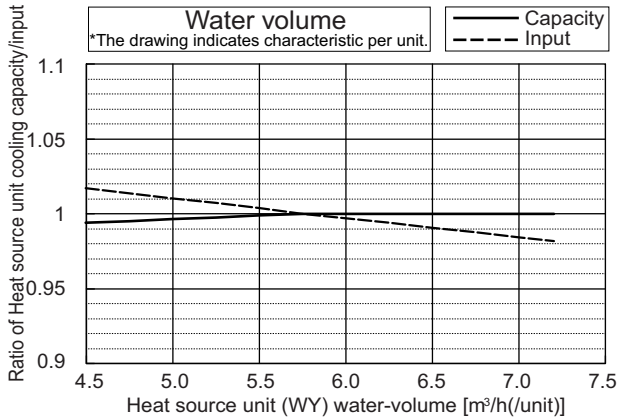


Heating

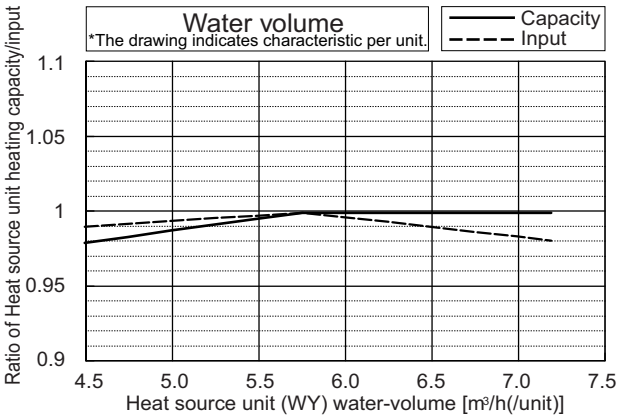


(10)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Cooling

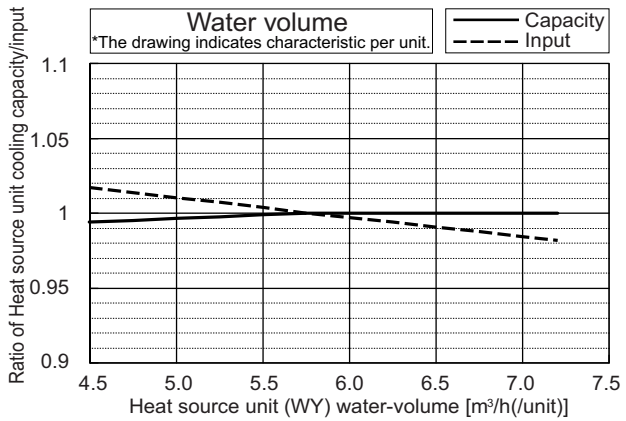


Heating



(10)-3 Connection with PFD-P250/500VM-E

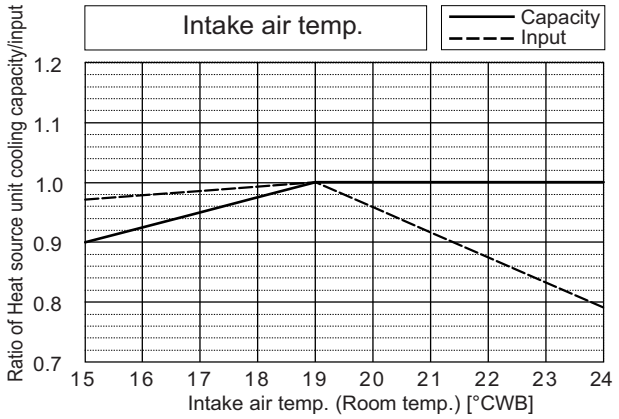
Cooling



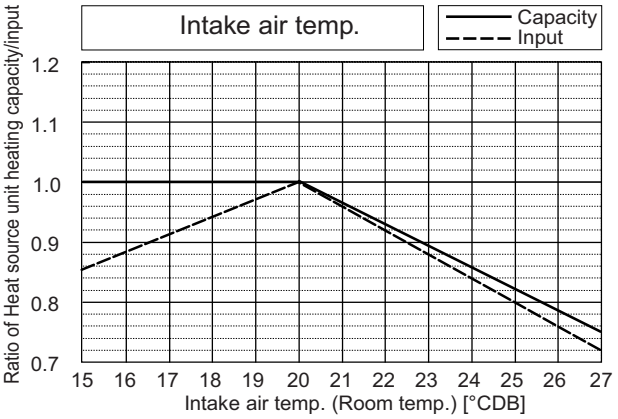
(11) Correction by indoor temperature

(11)-1 Connection with standard CITY MULTI indoor units

Cooling



Heating

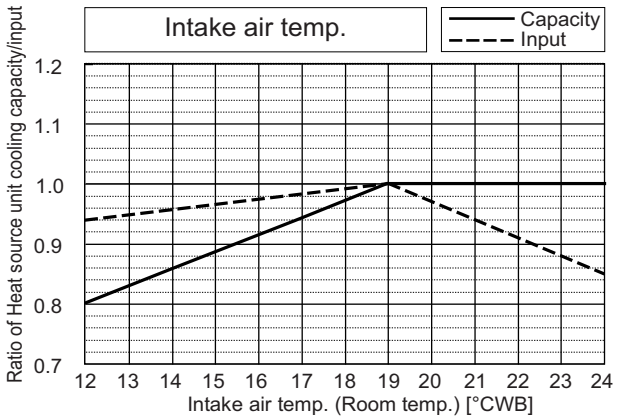


(11)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Refer to Page 49.

(11)-3 Connection with PFD-P250/500VM-E

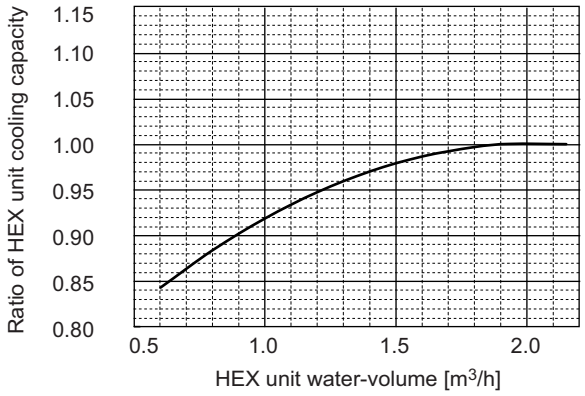
Cooling

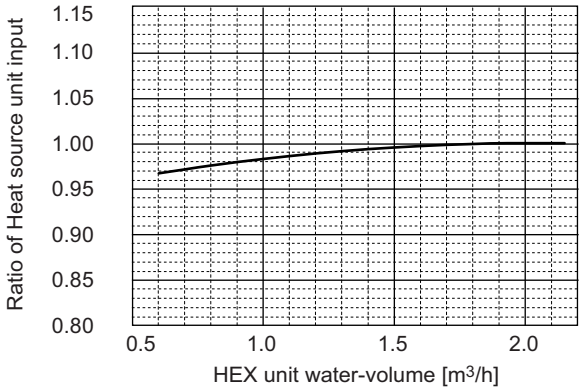


(12) Correction by water flow rate (For PWFY-P100/200VM-E-AU (HEX unit))

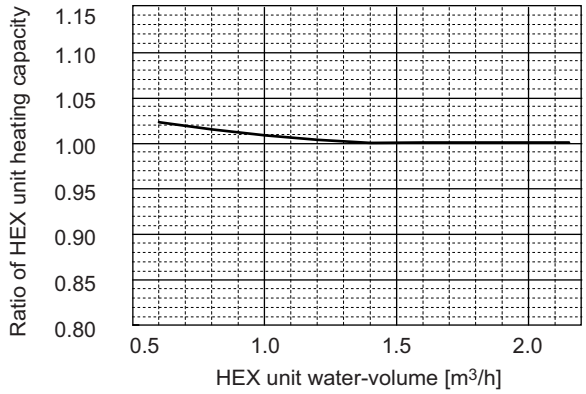
(12)-1 Connection with PWFY-P100VM-E-AU (HEX unit)

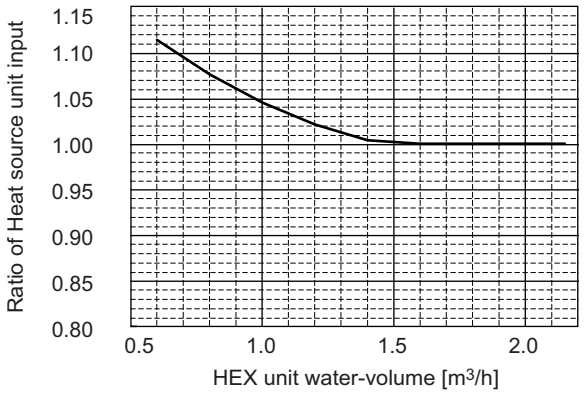
Cooling





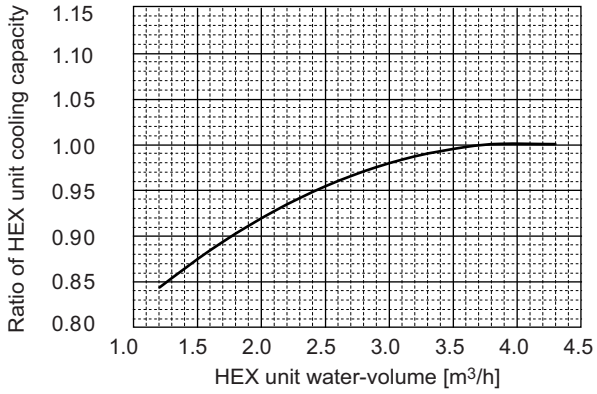
Heating

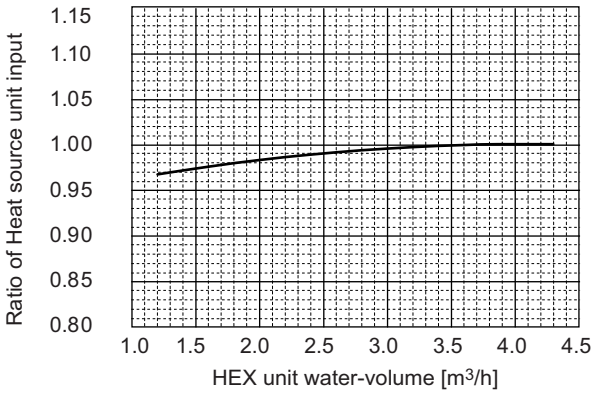




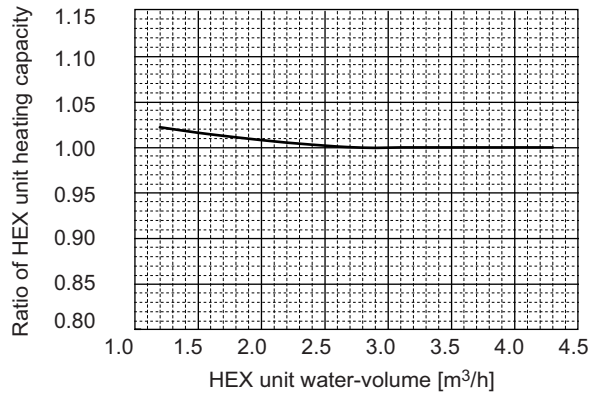
(12)-2 Connection with PWFY-P200VM-E-AU (HEX unit)

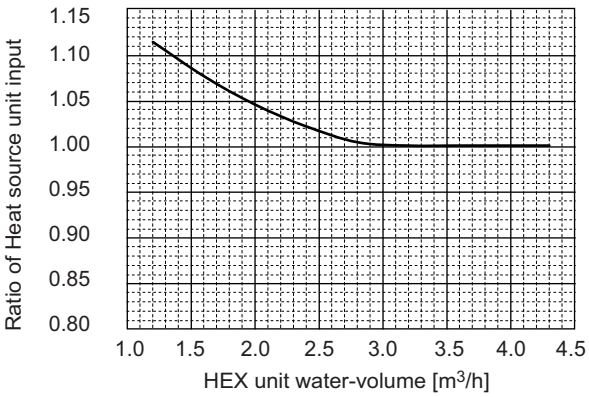
Cooling





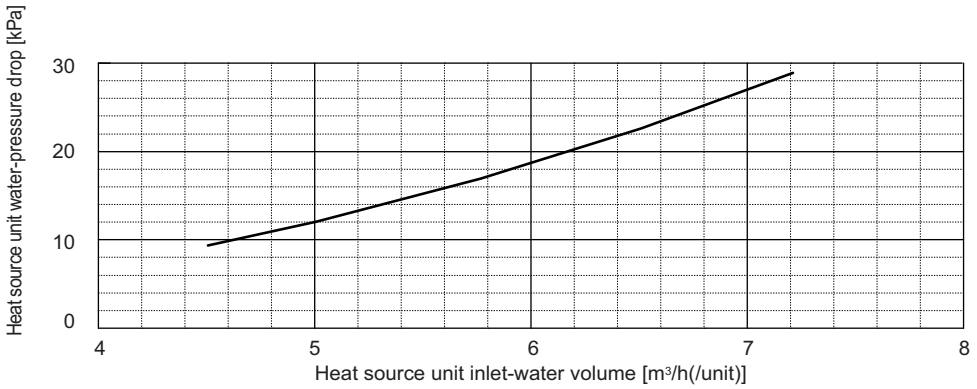
Heating





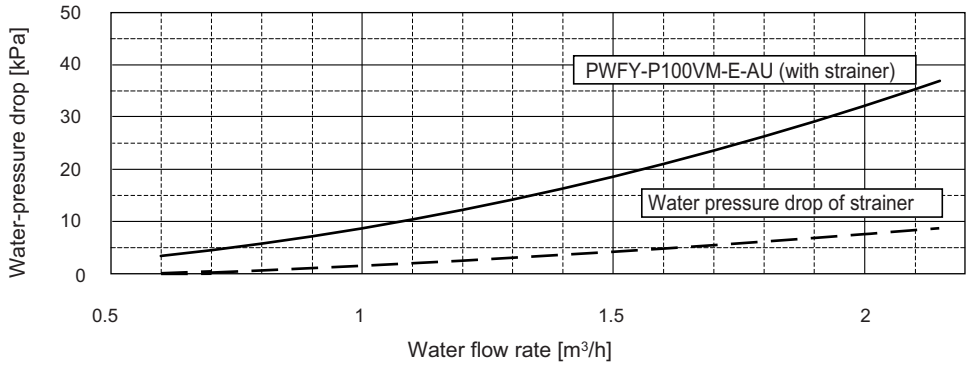
(13) Water pressure drop correction by water volume

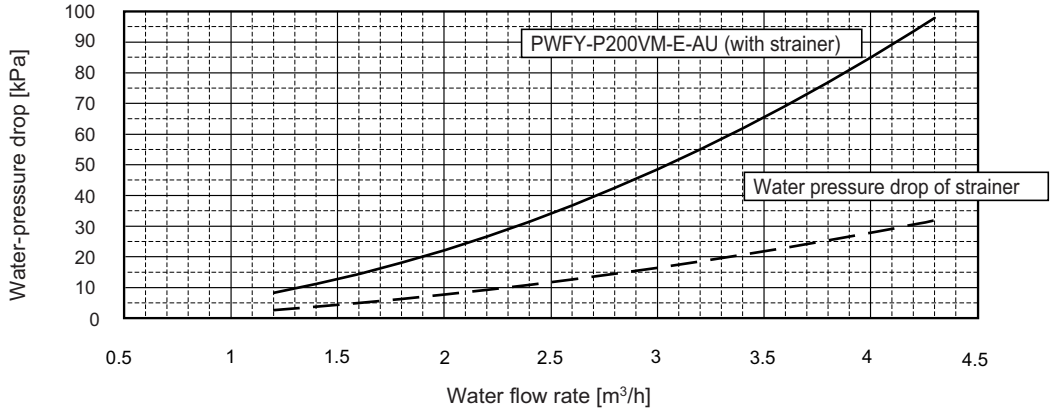
(13)-1 Heat source unit correction
(Connection with Standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU, PFD-P250/500VM-E)



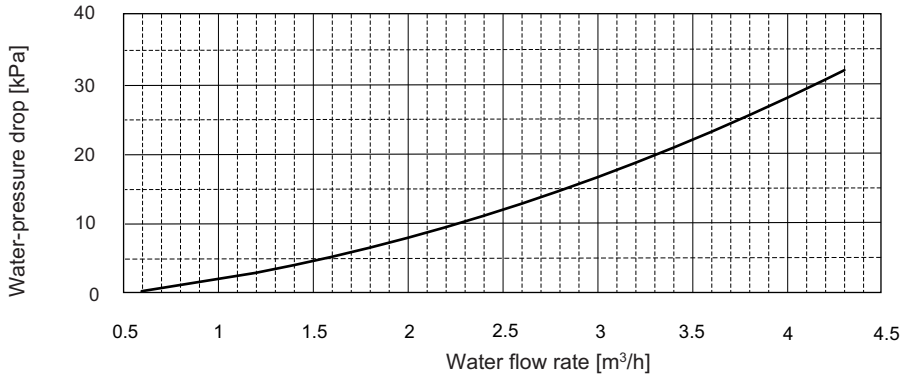
Note: The drawing indicates characteristic per unit. When using brine, refer to “3.Pressure drop correction by brine concentration” at page 3.

(13)-2 HEX unit correction (Connection with PWFY-P100/200VM-E-AU)





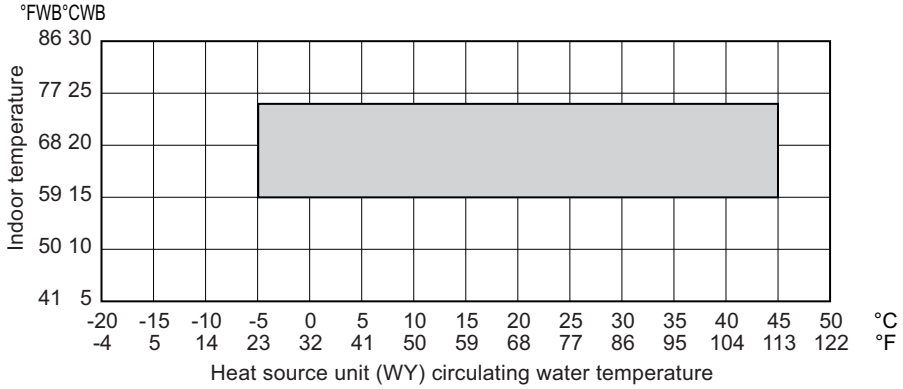
(13)-3 Water pressure drop of strainer only (accessory for PWFY-P100/200VM-E-AU)



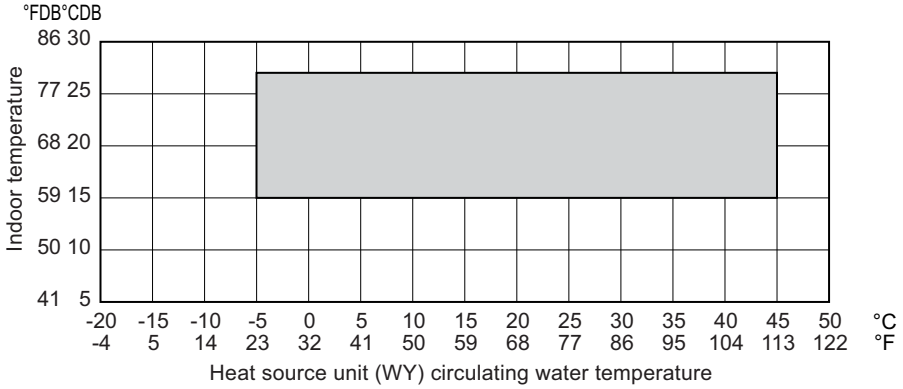
(14) Operation temperature range

(14)-1 Connection with standard CITY MULTI indoor units

Cooling

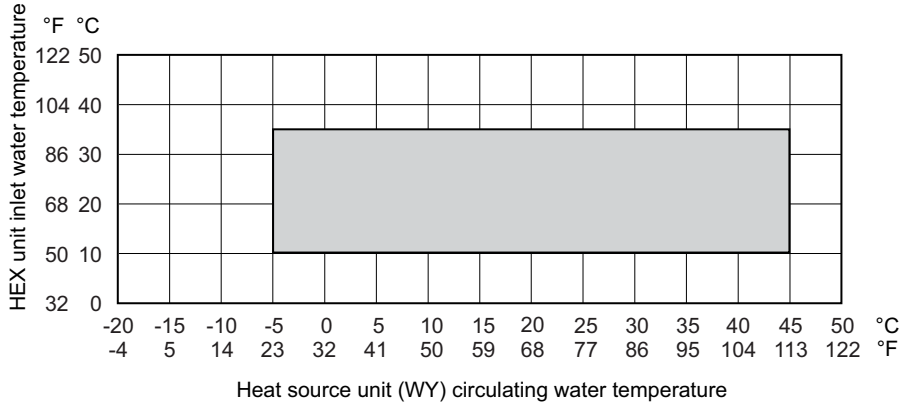


Heating

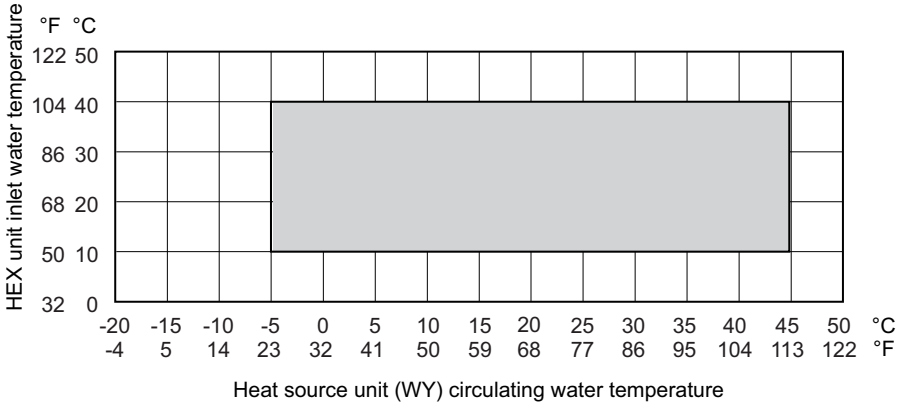


(14)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Cooling

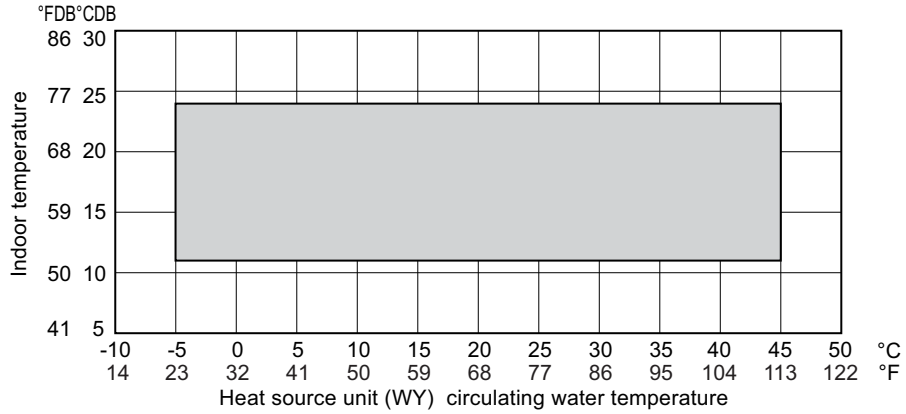


Heating

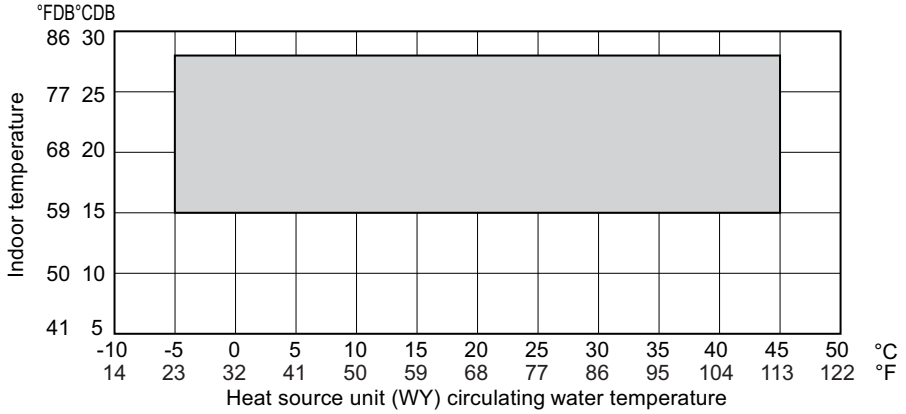


(14)-3 Connection with PFD-P250/500VM-E

Cooling



Heating



(15) Piping design

(15)-1 R410A Piping material

Refrigerant pipe for CITY MULTI shall be made of phosphorus deoxidized copper, and has two types.
A. Type-O : Soft copper pipe (annealed copper pipe), can be easily bent with human's hand.
B. Type-1/2H pipe : Hard copper pipe (Straight pipe), being stronger than Type-O pipe of the same radical thickness.

The maximum operation pressure of R410A air conditioner is 4.30 MPa [623psi]. The refrigerant piping should ensure the safety under the maximum operation pressure. MITSUBISHI ELECTRIC recommends pipe size as Table 15-1, or You shall follow the local industrial standard. Pipes of radical thickness 0.7mm or less shall not be used.

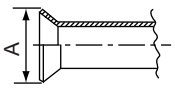
Table 15-1. Copper pipe size and radial thickness for R410A CITY MULTI.

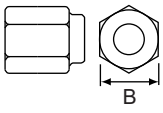
Size (mm)	Size (inch)	Radial thickness (mm)	Radial thickness (mil)	Pipe type
ø6.35	ø1/4"	0.8	[32]	Type-O
ø9.52	ø3/8"	0.8	[32]	Type-O
ø12.7	ø1/2"	0.8	[32]	Type-O
ø15.88	ø5/8"	1.0	[40]	Type-O
ø19.05	ø3/4"	1.2	[48]	Type-O
ø19.05	ø3/4"	1.0	[40]	Type-1/2H or H
ø22.2	ø7/8"	1.0	[40]	Type-1/2H or H
ø25.4	ø1"	1.0	[40]	Type-1/2H or H
ø28.58	ø1-1/8"	1.0	[40]	Type-1/2H or H
ø31.75	ø1-1/4"	1.1	[44]	Type-1/2H or H
ø34.93	ø1-3/8"	1.2	[48]	Type-1/2H or H
ø41.28	ø1-5/8"	1.4	[56]	Type-1/2H or H

* For pipe sized ø19.05 (3/4") for R410A air conditioner, choice of pipe type is up to you.
* The figures in the radial thickness column are based on the Japanese standards and provided only as a reference. Use pipes that meet the local standards.

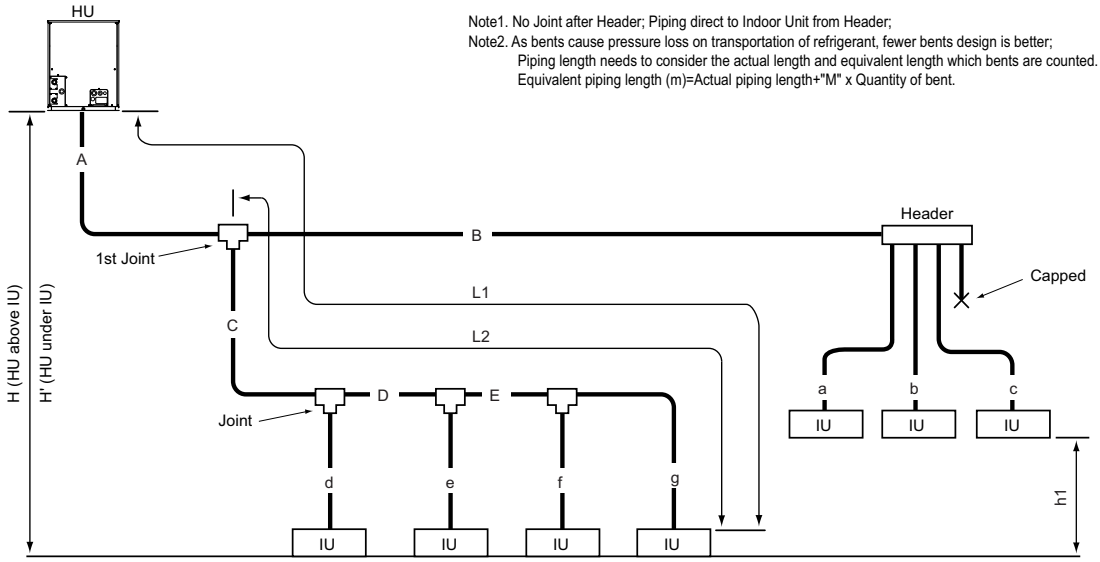
Flare

Due to the relative higher operation pressure of R410A compared to R22, the flare connection should follow dimensions mentioned below so as to achieve enough the air-tightness.

Flare pipe	Pipe size	A (For R410A) (mm[in.])
	ø6.35 [1/4"]	9.1
	ø9.52 [3/8"]	13.2
	ø12.70 [1/2"]	16.6
	ø15.88 [5/8"]	19.7
	ø19.05 [3/4"]	24.0

Flare nut	Pipe size	B (For R410A) (mm[in.])
	ø6.35 [1/4"]	17.0
	ø9.52 [3/8"]	22.0
	ø12.70 [1/2"]	26.0
	ø15.88 [5/8"]	29.0
	ø19.05 [3/4"]	36.0

(15)-2 PQHY-P200-300YHM Piping (Connection with standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU)



Note1. No Joint after Header; Piping direct to Indoor Unit from Header;
Note2. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.

Fig. 15-2A Piping scheme

IU : Indoor unit , HU : Heat source unit

Table15-2-1. Piping length **(m [ft.])**

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	A+B+C+D+E+a+b+c+d+e+f+g	300 [984']	-
Farthest IU from HU (L1)	A+C+D+E+g / A+B+c	165 [541']	190 [623']
Farthest IU from first Joint (L2)	C+D+E+g / B+c	40 [131']	40 [131']
Height between HU and IU (HU above IU)	H	50 [164']	-
Height between HU and IU (HU under IU)	H'	40 [131']	-
Height between IU and IU	h1	15 [49']	-

HU: Heat source Unit, IU: Indoor Unit

Table15-2-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
PQHY-P200YHM-A	0.35 [1.15]
PQHY-P250YHM-A	0.42 [1.38]
PQHY-P300YHM-A	0.42 [1.38]

Table15-2-3. Piping "A" size selection rule **(mm [in.])**

Heat source and the first Joint	Pipe(Liquid)	Pipe(Gas)
PQHY-P200YHM=CMY-Y102L-G2,Y102S-G2	ø9.52 [3/8"]	ø19.05 [3/4"]
PQHY-P250YHM=CMY-Y102L-G2	ø9.52 [3/8"] *1	ø22.20 [7/8"]
PQHY-P300YHM=CMY-Y102-G2	ø9.52 [3/8"] *2	ø22.20 [7/8"]

*1. A>=90m [295ft.], ø12.70mm [1/2in.] ; A<90m [295ft.], ø9.52mm [3/8in.]

*2. A>=40m [131ft.], ø12.70mm [1/2in.]

Table15-2-6. R410A Joint selection rule

Total down-stream Indoor capacity	Joint
~ P200	CMY-Y102S-G2
P201 ~ P400	CMY-Y102L-G2
P401 ~ P650	CMY-Y202-G2
P651 ~	CMY-Y302-G2

*Concerning detailed usage of Joint parts, refer to its Installation Manual.

Table15-2-4. R410A piping"B","C","D","E"size selection rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
~ P140	ø9.52 [3/8"]	ø15.88 [5/8"]
P141 ~ P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P201 ~ P300	ø9.52 [3/8"]	ø22.20 [7/8"]
P301 ~ P400	ø12.70 [1/2"]	ø28.58 [1-1/8"]
P401 ~ P650	ø15.88 [5/8"]	ø28.58 [1-1/8"]
P651 ~	ø19.05 [3/4"]	ø34.93 [1-3/8"]

Table15-2-7. R410A Header selection rule

	4-branch Header	8-branch Header	10-branch Header
	CMY-Y104-G	CMY-Y108-G	CMY-Y1010-G
Total down-stream Indoor capacity	<=P200	<=P400	<=P650

* CMY-Y104-G can directly connect PQHY-P200YHM, but can NOT directly connect PQHY-P250YHM or above;
* CMY-Y108-G can directly connect PQHY-P200-450Y(S)HM, but can NOT directly connect PQHY-P500YSHM or above;
* CMY-Y1010-G can directly connect PQHY-P200-600Y(S)HM;
* CMY-Y104-G can NOT connect P200,P250 Indoor, but CMY-Y108, Y1010-G can do;
* Concerning detailed usage of Header parts, refer to its Installation Manual.

Table15-2-5. Piping "a","b","c","d","e","f","g" size selection rule **(mm [in.])**

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P20,P25,P32,P40,P50,GUF-50RD(H)	ø6.35 [1/4"]	ø12.70 [1/2"]
P63,P71,P80,P100,P125,P140,GUF-100RD(H)	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

Note3. Indoor capacity is described as its model size;
For example, PEFY-P32VMM-E, its capacity is P32;

Note4. Total down-stream Indoor capacity is the summary of the model size of Indoors downstream.
For example, PEFY-P25VMM-E+PEFY-P32VMM-E: Total Indoor capacity=P25+P32=P57

Note5. Piping sized determined by the Total down-stream indoor capacity is NOT necessary to be bigger than the up-stream one.
i.e. A>=B; A>=C>=D

(15)-3 PQHY-P400-600YSHM Piping (Connection with standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU)

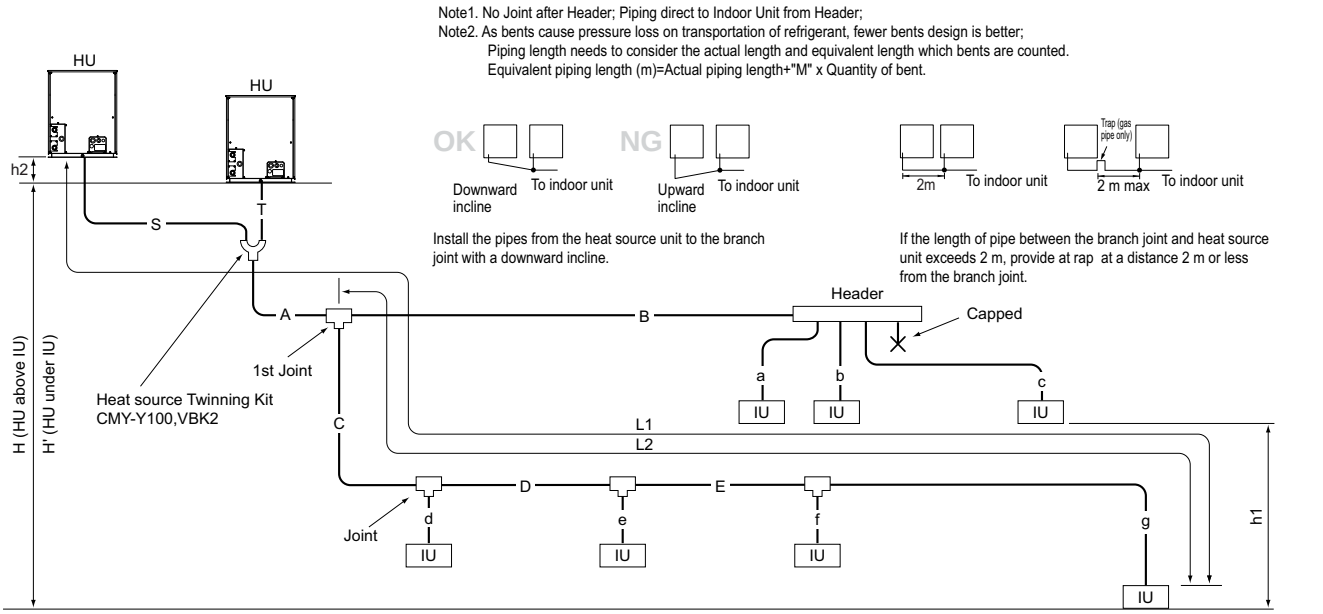


Fig. 15-3A Piping scheme

IU : Indoor unit , HU : Heat source unit

Table15-3-1. Piping length **(m [ft.])**

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	S+T+A+B+C+D+E+a+b+c+d+e+f+g	500 [1640']	-
Distance between HU and HU	S+T	10[32']	-
Height between HU and HU	h2	0.1[0.3']	-
Farthest IU from HU (L1)	S(T)+A+C+D+E+g / S(T)+A+B+c	165 [541']	190 [623']
Farthest IU from the first Joint (L2)	C+D+E+g / B+c	40 [131']	40 [131']
Height between HU and IU (HU above IU)	H	50 [164']	-
Height between HU and IU (HU above IU)	H'	40 [131']	-
Height between IU and IU	h1	15 [49']	-

HU: Heat source Unit, IU: Indoor Unit

Table15-3-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
PQHY-P400YSHM-A	0.50 [1.64]
PQHY-P450YSHM-A	0.50 [1.64]
PQHY-P500YSHM-A	0.50 [1.64]
PQHY-P550YSHM-A	0.50 [1.64]
PQHY-P600YSHM-A	0.50 [1.64]

Table15-3-3. Piping "A" size selection rule **(mm [in.])**

Heat source and the first Joint	Pipe(Liquid)	Pipe(Gas)
CMY-Y100VBK2=CMY-Y202-G2	ø12.70[1/2"]	ø28.58[1-1/8"]*1
	ø15.88[5/8"]	ø28.58[1-1/8"]*2

For Piping size "S","T", please refer to specification of the Twining kit CMY-Y100VBK2 at the Heat source unit's external drawing.

Table15-3-4. Piping"B","C","D","E" size selection rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
~ P140	ø9.52 [3/8"]	ø15.88 [5/8"]
P141 ~ P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P201 ~ P300	ø9.52 [3/8"]	ø22.20 [7/8"]
P301 ~ P400	ø12.70 [1/2"]	ø28.58 [1-1/8"]
P401 ~ P650	ø15.88 [5/8"]	ø28.58 [1-1/8"]
P651 ~	ø19.05 [3/4"]	ø34.93 [1-3/8"]

Table15-3-5. Piping"a","b","c","d","e","f","g" size selection rule **(mm [in.])**

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P20,P25,P32,P40,P50,GUF-50RD(H)	ø6.35 [1/4"]	ø12.70 [1/2"]
P63,P71,P80,P100,P125,P140,GUF-100RD(H)	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

Table15-3-6. R410A Joint selection rule

Total down-stream Indoor capacity	Joint
~ P200	CMY-Y102S-G2
P201 ~ P400	CMY-Y102L-G2
P401 ~ P650	CMY-Y202-G2
P651 ~	CMY-Y302-G2

*PQHY-P400-600YSHM's first Joint is always CMY-Y202-G2;
*Concerning detailed usage of Joint parts, refer to its Installation Manual.
*The total capacity of the units in the downstream of the branch joint on at least one of the piping lines that are connected to the branch joint should be 650 or below.
If the total capacity of the units in the downstream of the branch joints on both lines is 650 or above use two branch joints (CMY-Y302-G2).

Table15-3-7. R410A Header selection rule

	4-branch Header	8-branch Header	10-branch Header
	CMY-Y104-G	CMY-Y108-G	CMY-Y1010-G
Total down-stream Indoor capacity	<=P200	<=P400	<=P650

* CMY-Y104-G can directly connect PQHY-P200YHM, but can NOT directly connect PQHY-P250YHM or above;
* CMY-Y108-G can directly connect PQHY-P200-600Y(S)HM, but can NOT directly connect PQHY-P500YSHM or above;
* CMY-Y1010-G can directly connect PUHY-(E)P200-650Y(S)HM;
* CMY-Y104-G can NOT connect P200,P250 Indoor, but CMY-Y108, Y1010-G can do;
* Concerning detailed usage of Header parts, refer to its Installation Manual.

Note3. Indoor capacity is described as its model size;
For example, PEFY-P32VMM-E, its capacity is P32;
Note4. Total down-stream Indoor capacity is the summary of the model size of Indoors downstream.
For example, PEFY-P25VMM-E+PEFY-P32VMM-E: Total Indoor capacity=P25+P32=P57
Note5. Piping sized determined by the Total down-stream indoor capacity is NOT necessary to be bigger than the up-stream one.
i.e. A>=B; A>=C>=D

(15)-4 PQHY-P650-900YSHM Piping (Connection with standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU)

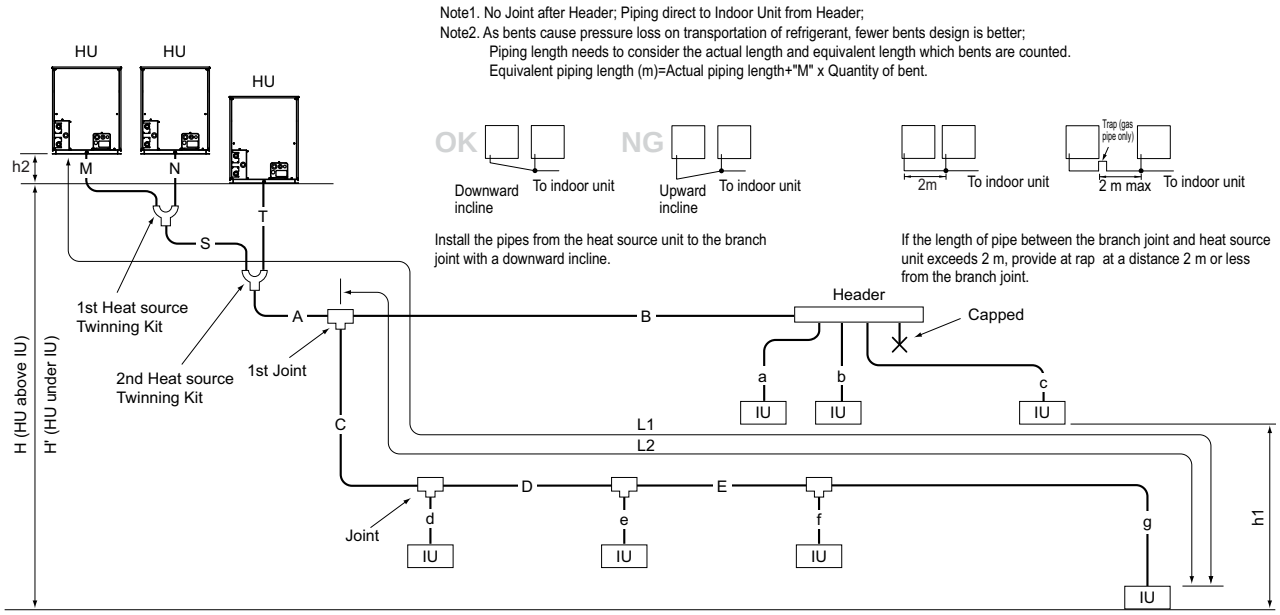


Fig. 15-4A Piping scheme

IU : Indoor unit , HU : Heat source unit

Table15-4-1. Piping length **(m [ft.])**

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	S+T+M+N+A+B+C+D+E+a+b+c+d+e+f+g	500[1640']	-
Distance between HU and HU	M+N+S+T	10[32']	-
Height between HU and HU	h2	0.1[0.3']	-
Farthest IU from HU (L1)	M(N)+S+A+C+D+E+g / M(N)+S+A+B+c	165[541']	190[623']
Farthest IU from the first Joint (L2)	C+D+E+g / B+c	40[131']	40[131']
Height between HU and IU (HU above IU)	H	50[164'] *1	-
Height between HU and IU (HU above IU)	H'	40[131'] *2	-
Height between IU and IU	h1	15[49']	-

HU: Heat source Unit, IU: Indoor Unit

*1 90m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.

*2 60m is available depending on the model and installation conditions. For more detailed information, contact your local distributor.

Table15-4-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
PQHY-P650YSHM-A	0.50 [1.64]
PQHY-P700YSHM-A	0.70 [2.29]
PQHY-P750YSHM-A	0.70 [2.29]
PQHY-P800YSHM-A	0.70 [2.29]
PQHY-P850YSHM-A	0.80 [2.62]
PQHY-P900YSHM-A	0.80 [2.62]

Table15-4-3. Piping "A" size selection rule **(mm [in.])**

Heat source and the first Joint	Pipe(Liquid)	Pipe(Gas)
CMY-Y300VBK2=CMY-Y302-G2	ø19.05[3/4"]	ø34.93[1-3/8"]*1
	ø19.05[3/4"]	ø41.28[1-5/8"]*2

For Piping size"M","N","S","T", please refer to specification of the Twining kit CMY-Y300VBK2 at the Heat source unit's external drawing.

*1 PQHY-P650-800YSHM
*2 PQHY-P850, 900YSHM

Table15-4-4. Piping"B","C","D","E" size selection rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
~ P140	ø9.52 [3/8"]	ø15.88 [5/8"]
P141 ~ P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P201 ~ P300	ø9.52 [3/8"]	ø22.20 [7/8"]
P301 ~ P400	ø12.70 [1/2"]	ø28.58 [1-1/8"]
P401 ~ P650	ø15.88 [5/8"]	ø28.58 [1-1/8"]
P651 ~ P800	ø19.05 [3/4"]	ø34.93 [1-3/8"]
P801 ~	ø19.05 [3/4"]	ø41.28 [1-5/8"]

Table15-4-5. Piping"a","b","c","d","e","f","g" size selection rule **(mm [in.])**

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P20,P25,P32,P40,P50,GUF-50RD(H)	ø6.35 [1/4"]	ø12.70 [1/2"]
P63,P71,P80,P100,P125,P140,GUF-100RD(H)	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

Table15-4-6. R410A Joint selection rule

Total down-stream Indoor capacity	Joint
~ P200	CMY-Y102S-G2
P201 ~ P400	CMY-Y102L-G2
P401 ~ P650	CMY-Y202-G2
P651 ~	CMY-Y302-G2

*The total capacity of the units in the downstream of the branch joint on at least one of the piping lines that are connected to the branch joint should be 650 or below.
If the total capacity of the units in the downstream of the branch joints on both lines is 650 or above use two branch joints (CMY-Y302-G2).
*Concerning detailed usage of Joint parts, refer to its Installation Manual.

Table15-4-7. R410A Header selection rule

	4-branch Header	8-branch Header	10-branch Header
	CMY-Y104-G	CMY-Y108-G	CMY-Y1010-G
Total down-stream Indoor capacity	<=P200	<=P400	<=P650

* CMY-Y104-G can directly connect PQHY-P200YHM, but can NOT directly connect PQHY-P250YHM or above;
* CMY-Y108-G can directly connect PQHY-P200-450Y(S)HM, but can NOT directly connect PQHY-P500YSHM or above;
* CMY-Y1010-G can directly connect PQHY-P200-650Y(S)HM;
* CMY-Y104-G can NOT connect P200,P250 Indoor, but CMY-Y108, Y1010-G can do;
* Concerning detailed usage of Header parts, refer to its Installation Manual.

Note3. Indoor capacity is described as its model size;
For example, PEFY-P32VMA-E, its capacity is P32;
Note4. Total down-stream Indoor capacity is the summary of the model size of Indoors downstream.
For example, PEFY-P25VMA-E+PEFY-P32VMA-E: Total Indoor capacity=P25+P32=P57
Note5. Piping sized determined by the Total down-stream indoor capacity is NOT necessary to be bigger than the up-stream one.
i.e. A>=B; A>=C>=D

(15)-5 PQHY-P250/P250+P250YHM (Connection with PFD indoor unit)

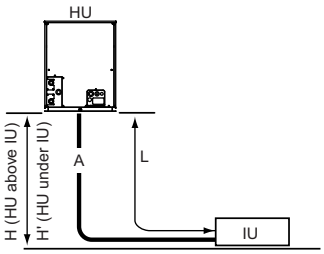


Fig.15-5A : Connection with PFD-P250VM-E

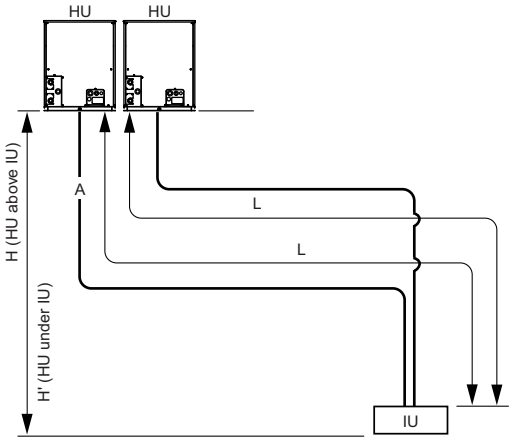


Fig.15-5AA : Connection with PFD-P500VM-E (two refrigerant circuit system)

IU : Indoor unit , HU : Heat source unit

Table : 15-5-1. Piping length **(m)**

Item	Piping in the figure	Max. length	Max. equivalent length
Farthest IU from HU (L)	A	165	190
Height between HU and IU (HU above IU)	H	50	-
Height between HU and IU (HU under IU)	H'	40	-

IU: Indoor Unit, HU: Heat source Unit

Table : 15-5-2. Bent equivalent length "M"

Model	M (m/bent)
P250	0.42

Table : 15-5-3. Piping "A" size selection rule **(mm)**

Model	Pipe(Liquid)	Pipe(Gas)
P250	ø9.52 *1	ø22.20

*1. A>=90m , ø12.70mm

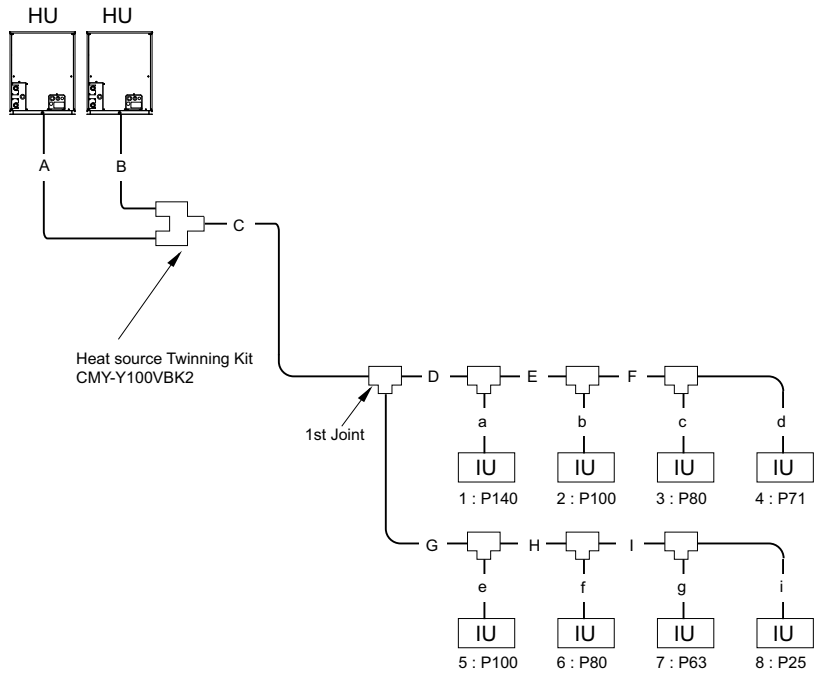
Table : 15-5-4. Indoor unit piping size selection rule **(mm)**

Indoor Unit size	Pipe(Liquid)	Pipe(Gas)
P250	ø9.52	ø22.20
P500	ø9.52	ø22.20

Note1. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.

(15)-6 Refrigerant charging calculation

Sample connection(with 8 indoor units)



■Amount of refrigerant to be charged

Refrigerant for extended pipes (field piping) is not factory-charged to the heat source unit. Add an appropriate amount of refrigerant for each pipe on site.

Record the size of each liquid pipe and the amount of refrigerant that was charged on the heat source unit for future reference.

■Calculating the amount of refrigerant to be charged

- The amount of refrigerant to be charged is calculated with the size of the on-site-installed liquid pipes and their length.
- Calculate the amount of refrigerant to be charged according to the formula below.
- Round up the calculation result to the nearest 0.1kg. (i.e., 16.08 kg = 16.1 kg)

<Amount of refrigerant to be charged>

■Calculating the amount of refrigerant to be charged

Total length of ø19.05 liquid pipe x 0.29	+	Total length of ø15.88 liquid pipe x 0.2	+	Total length of ø12.7 liquid pipe x 0.12	+	Total length of ø9.52 liquid pipe x 0.06	+	Total length of ø6.35 liquid pipe x 0.024	+
(m)x0.29(kg/m)		(m)x0.2(kg/m)		(m)x0.12(kg/m)		(m)x0.06(kg/m)		(m)x0.024(kg/m)	

Total capacity of connected indoor units	Charged amount
~80	2.0kg
81~160	2.5kg
161~330	3.0kg
331~390	3.5kg
391~480	4.5kg
481~630	5.0kg
631~710	6.0kg
711~	8.0kg
PFD-P250	2.0kg
PFD-P500	2.0kgx2

■Amount of factory-charged refrigerant

Heat source unit model	Charged amount
P200 model	5.0kg
P250 model	
P300 model	

■Sample calculation

		Indoor		
A : ø9.52	3m	1:P140	a : ø9.52	15m
B : ø12.70	2m	2:P100	b : ø9.52	15m
C : ø19.05	40m	3:P80	c : ø9.52	5m
D : ø15.88	10m	4:P71	d : ø9.52	5m
E : ø12.70	5m	5:P100	e : ø9.52	5m
F : ø9.52	5m	6:P80	f : ø9.52	5m
G : ø9.52	30m	7:P63	g : ø9.52	5m
H : ø9.52	5m	8:P25	i : ø6.35	5m
I : ø9.52	5m			

Total length for each pipe size :	ø19.05	C=40
	ø15.88	D=10m
	ø12.70	B+E=2+5=7m
	ø9.52	A+F+G+H+I+a+b+c+d+e+f+g=3+5+30+5+5+15+15+5+5+5+5+5=103m
	ø6.35	i=5m
This yields the following result :		=40x0.29+10x0.2+7x0.12+103x0.06+5x0.024+5
		=25.74kg
		≒25.8kg

3.PQRY-P-Y(S)HM-A

(1) Specification

(1)-1 Heat source units specification for standard combination (Standard CITY MULTI indoor units, PWFY-P100VM-E-BU, PWFY-P100/200VM-E-AU)

Model			PQRY-P200YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	22.4
	*1	kcal / h	19,300
	*1	BTU / h	76,400
	Power input	kW	3.96
	Current input	A	6.6-6.3-6.1
	COP	kW / kW	5.65
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	25.0
	*2	kcal / h	21,500
	*2	BTU / h	85,300
	Power input	kW	4.12
	Current input	A	6.9-6.6-6.3
	COP	kW / kW	6.06
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~20
Sound pressure level (measured in anechoic room)		dB <A>	47
Refrigerant piping diameter	High pressure	mm(in.)	15.88(5/8) Brazed
	Low pressure	mm(in.)	19.05(3/4) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	4.6
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	181(400)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T146
	Wiring		KE94C302
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016V-G Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40°C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P250YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	28.0
	*1	kcal / h	24,100
	*1	BTU / h	95,500
	Power input	kW	5.51
	Current input	A	9.3-8.8-8.5
	COP	kW / kW	5.08
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	31.5
	*2	kcal / h	27,100
	*2	BTU / h	107,500
	Power input	kW	5.80
	Current input	A	9.7-9.3-8.9
	COP	kW / kW	5.43
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~25
Sound pressure level (measured in anechoic room)		dB <A>	49
Refrigerant piping diameter	High pressure	mm(in.)	19.05(3/4) Brazed
	Low pressure	mm(in.)	22.2(7/8) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	6.3
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	181(400)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T146
	Wiring		KE94C302
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016V-G Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>

Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>

Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P300YHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	33.5
	*1	kcal / h	28,800
	*1	BTU / h	114,300
	Power input	kW	7.44
	Current input	A	12.5-11.9-11.5
	COP	kW / kW	4.50
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	37.5
	*2	kcal / h	32,300
	*2	BTU / h	128,000
	Power input	kW	8.15
	Current input	A	13.7-13.0-12.5
	COP	kW / kW	4.60
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~30
Sound pressure level (measured in anechoic room)		dB <A>	50
Refrigerant piping diameter	High pressure	mm(in.)	19.05(3/4) Brazed
	Low pressure	mm(in.)	22.2(7/8) Brazed
Circulating water	Water flow rate	m^3 / h	5.76
		L/min	96
		cfm	3.4
	Pressure drop	kPa	17
	Operating volume range	m^3 / h	4.5 ~ 7.2
Compressor	Type x Quantity		Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter
	Motor output	kW	7.4
	Case heater	kW	0.035(240 V)
	Lubricant		MEL32
External finish			Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection
	Compressor		Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller
Net weight		kg(lbs)	181(400)
Heat exchanger			plate type
	Water volume in plate	l	5.0
	Water pressure Max.	MPa	1.0
HIC circuit (HIC: Heat Inter-Changer)			-
Drawing	External		KB94T146
	Wiring		KE94C302
Standard attachment	Document		Installation Manual
	Accessory		Refrigerant conn. pipe
Optional parts			Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J BC controller: CMB-P104, 105, 106, 108, 1010, 1013, 1016V-G Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB

Remarks

- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P400YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	45.0
	*1	kcal / h	38,700
	*1	BTU / h	153,500
	Power input	kW	8.32
	Current input	A	14.0-13.3-12.8
	COP	kW / kW	5.40
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	50.0
	*2	kcal / h	43,000
	*2	BTU / h	170,600
	Power input	kW	8.65
	Current input	A	14.6-13.8-13.3
	COP	kW / kW	5.78
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~40
Sound pressure level (measured in anechoic room)		dB <A>	50
Refrigerant piping diameter	High pressure	mm(in.)	22.2(7/8) Brazed
	Low pressure	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQRY-P200YHM-A(For Ground source)	PQRY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	4.6	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	181(400)	181(400)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	High pressure	mm(in.)	19.05(3/4) Brazed	19.05(3/4) Brazed
	Low pressure	mm(in.)	-	22.2(7/8) Brazed
Drawing	External		KB94T147	
	Wiring		KE94C302	KE94C302
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Q100VBK Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- The heat source twinning kit(low pressure) should be connected to the low pressure side of the heat source unit.
  If the connected units are of different capacities, the heat source twinning kit(low pressure) should be installed in the unit with the largest capacity.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P450YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	50.0
	*1	kcal / h	43,000
	*1	BTU / h	170,600
	Power input	kW	9.94
	Current input	A	16.7-15.9-15.3
	COP	kW / kW	5.03
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	56.0
	*2	kcal / h	48,200
	*2	BTU / h	191,100
	Power input	kW	10.42
	Current input	A	17.5-16.7-16.1
	COP	kW / kW	5.37
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~45
Sound pressure level (measured in anechoic room)		dB <A>	51
Refrigerant piping diameter	High pressure	mm(in.)	22.2(7/8) Brazed
	Low pressure	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQRY-P250YHM-A(For Ground source)	PQRY-P200YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	6.3	4.6
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	181(400)	181(400)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	High pressure	mm(in.)	19.05(3/4) Brazed	19.05(3/4) Brazed
	Low pressure	mm(in.)	-	22.2(7/8) Brazed
Drawing	External		KB94T147	
	Wiring		KE94C302	KE94C302
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Q100VBK Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB	

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40°C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●The heat source twinning kit(low pressure) should be connected to the low pressure side of the heat source unit.
  If the connected units are of different capacities, the heat source twinning kit(low pressure) should be installed in the unit with the largest capacity.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.
- ●Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P500YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	56.0
	*1	kcal / h	48,200
	*1	BTU / h	191,100
	Power input	kW	11.57
	Current input	A	19.5-18.5-17.8
	COP	kW / kW	4.84
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	63.0
	*2	kcal / h	54,200
	*2	BTU / h	215,000
	Power input	kW	12.06
	Current input	A	20.3-19.3-18.6
	COP	kW / kW	5.22
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 1~50 (Connectable branch pipe number is max. 48.)
Sound pressure level (measured in anechoic room)		dB <A>	52
Refrigerant piping diameter	High pressure	mm(in.)	22.2(7/8) Brazed
	Low pressure	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQRY-P250YHM-A(For Ground source)	PQRY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	6.3	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	181(400)	181(400)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	High pressure	mm(in.)	19.05(3/4) Brazed	19.05(3/4) Brazed
	Low pressure	mm(in.)	-	22.2(7/8) Brazed
Drawing	External		KB94T147	
	Wiring		KE94C302	KE94C302
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Q100VBK Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB	

Remarks

- Turn DipSW 3-9 ON before power ON.
- Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- Due to continuing improvement, above specifications may be subject to change without notice.
- The ambient temperature of the heat source unit needs to be kept below 40°C D.B.
- The ambient relative humidity of the heat source unit needs to be kept below 80%.
- The heat source unit should not be installed at outdoor.
- Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- Be sure to provide interlocking for the unit operation and water circuit.
- The heat source twinning kit(low pressure) should be connected to the low pressure side of the heat source unit.
  If the connected units are of different capacities, the heat source twinning kit(low pressure) should be installed in the unit with the largest capacity.
- Add brine to circulating water when a unit is operating at water temperature below 10°C.
- Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P550YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	63.0
	*1	kcal / h	54,200
	*1	BTU / h	215,000
	Power input	kW	13.60
	Current input	A	22.9-21.8-21.0
	COP	kW / kW	4.63
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	69.0
	*2	kcal / h	59,300
	*2	BTU / h	235,400
	Power input	kW	14.65
	Current input	A	24.7-23.4-22.6
	COP	kW / kW	4.70
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50 (Connectable branch pipe number is max. 48.)
Sound pressure level (measured in anechoic room)		dB <A>	52.5
Refrigerant piping diameter	High pressure	mm(in.)	28.58(1-1/8) Brazed
	Low pressure	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQRY-P300YHM-A(For Ground source)	PQRY-P250YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	7.4	6.3
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	181(400)	181(400)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	High pressure	mm(in.)	19.05(3/4) Brazed	19.05(3/4) Brazed
	Low pressure	mm(in.)	-	22.2(7/8) Brazed
Drawing	External		KB94T147	
	Wiring		KE94C302	KE94C302
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Q100VBK Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB	

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40°C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●The heat source twinning kit(low pressure) should be connected to the low pressure side of the heat source unit.
  If the connected units are of different capacities, the heat source twinning kit(low pressure) should be installed in the unit with the largest capacity.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.
- ●Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Model			PQRY-P600YSHM-A(For Ground source)
Power source			3-phase 4-wire 380-400-415V 50/60Hz
Cooling capacity (Nominal)	*1	kW	69.0
	*1	kcal / h	59,300
	*1	BTU / h	235,400
	Power input	kW	15.62
	Current input	A	26.3-25.0-24.1
	COP	kW / kW	4.41
Temp. range of cooling	Indoor	W.B.	15.0~24.0°C(59~75°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Heating capacity (Nominal)	*2	kW	76.5
	*2	kcal / h	65,800
	*2	BTU / h	261,000
	Power input	kW	17.12
	Current input	A	28.9-27.4-26.4
	COP	kW / kW	4.46
Temp. range of heating	Indoor	D.B.	15.0~27.0°C(59~81°F)
	Circulating water	°C	-5.0~45.0°C(23~113°F)
Indoor unit connectable	Total capacity		50~150 % of heat source unit capacity
	Model / Quantity		P15~P250 / 2~50 (Connectable branch pipe number is max. 48.)
Sound pressure level (measured in anechoic room)		dB <A>	53
Refrigerant piping diameter	High pressure	mm(in.)	28.58(1-1/8) Brazed
	Low pressure	mm(in.)	28.58(1-1/8) Brazed

Set Model

Model			PQRY-P300YHM-A(For Ground source)	PQRY-P300YHM-A(For Ground source)
Circulating water	Water flow rate	m^3 / h	5.76 + 5.76	
		L/min	96 + 96	
		cfm	3.4 + 3.4	
	Pressure drop	kPa	17	17
	Operating volume range	m^3 / h	4.5 + 4.5 ~ 7.2 + 7.2	
Compressor	Type x Quantity		Inverter scroll hermetic compressor	Inverter scroll hermetic compressor
	Manufacture		AC&R Works, MITSUBISHI ELECTRIC CORPORATION	AC&R Works, MITSUBISHI ELECTRIC CORPORATION
	Starting method		Inverter	Inverter
	Motor output	kW	7.4	7.4
	Case heater	kW	0.035(240 V)	0.035(240 V)
	Lubricant		MEL32	MEL32
External finish			Acrylic painted steel plate	Acrylic painted steel plate
External dimension HxWxD		mm	1,160(1,100 without legs) x 880 x 550	1,160(1,100 without legs) x 880 x 550
		in.	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16	45-11/16(43-5/16 without legs) x 34-11/16 x 21-11/16
Protection devices	High pressure protection		High pressure sensor, High pressure switch at 4.15MPa (601 psi)	High pressure sensor, High pressure switch at 4.15MPa (601 psi)
	Inverter circuit (COMP.)		Over-heat protection, Over-current protection	Over-heat protection, Over-current protection
	Compressor		Over-heat protection	Over-heat protection
Refrigerant	Type x original charge		R410A x 5.0kg (12lbs)	R410A x 5.0kg (12lbs)
	Control		Indoor LEV and BC controller	
Net weight		kg(lbs)	181(400)	181(400)
Heat exchanger			plate type	plate type
	Water volume in plate	l	5.0	5.0
	Water pressure Max.	MPa	1.0	1.0
HIC circuit (HIC: Heat Inter-Changer)			-	-
Pipe between unit and distributor	High pressure	mm(in.)	19.05(3/4) Brazed	19.05(3/4) Brazed
	Low pressure	mm(in.)	-	22.2(7/8) Brazed
Drawing	External		KB94T147	
	Wiring		KE94C302	KE94C302
Standard attachment	Document		Installation Manual	
	Accessory		Refrigerant conn. pipe	
Optional parts			Heat Source Twinning kit: CMY-Q100VBK Joint: CMY-Y102S-G2,CMY-Y102L-G2,CMY-Y202-G2,CMY-R160-J Main BC controller: CMB-P108,1010,1013,1016V-GA Sub BC controller: CMB-P104,108V-GB,CMB-P1016V-HB	

Remarks
- ●Turn DipSW 3-9 ON before power ON.
- ●Details on foundation work, duct work, insulation work, electrical wiring, power source switch, and other items shall be referred to the Installation Manual.
- ●Due to continuing improvement, above specifications may be subject to change without notice.
- ●The ambient temperature of the heat source unit needs to be kept below 40 °C D.B.
- ●The ambient relative humidity of the heat source unit needs to be kept below 80%.
- ●The heat source unit should not be installed at outdoor.
- ●Be sure to mount a strainer (more than 50 meshes) at the water inlet piping of the unit.
- ●Be sure to provide interlocking for the unit operation and water circuit.
- ●The heat source twinning kit(low pressure) should be connected to the low pressure side of the heat source unit.
  If the connected units are of different capacities, the heat source twinning kit(low pressure) should be installed in the unit with the largest capacity.
- ●Add brine to circulating water when a unit is operating at water temperature below 10°C.
- ●Twinning kit is required.

Notes:

1.<Standard CITY MULTI indoor unit>
Nominal cooling conditions(subject to JIS B8615-1)
Indoor:27°CDB/19°CWB(81°FDB/66°FWB)
Water temperature:30°C(86°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

2.<PWFY-P100/200VM-E-AU>
Nominal cooling conditions
Circulating water Temp. : 30°C (86°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 23°C, Water flow rate : 1.93m^3/h (P100) / 3.86m^3/h (P200)
Brine concentration 0%

3.<PWFY-P100VM-E-BU>
Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 65°C, Water flow rate 2.15m^3/h
Brine concentration 0%

Nominal heating conditions(subject to JIS B8615-1)
Indoor:20°CDB(68°FDB)
Water temperature:20°C(68°F)
Pipe length:7.5m(24-9/16ft.), Level difference:0m(0ft.)
Brine concentration 0%

Nominal heating conditions
Circulating water Temp. : 20°C (68°F)
Pipe length : 7.5 m (24-9/16 ft)
Level difference : 0m (0ft)
Inlet water Temp 30°C, Water flow rate : 2.15m^3/h (P100) / 4.30m^3/h (P200)
Brine concentration 0%

Unit converter

kcal	=kW x 860
BTU/h	=kW x 3,412
cfm	=m^3/min x 35.31
lb	=kg / 0.4536

*The specification data is subject to rounding variation.

Note 1. Close a hole of the water piping, the refrigerant piping, the power supply, and the control wiring and unused knockout holes with the putty etc. so as not to infiltrate rain water etc. (field erection work)
Note 2. At the time of product shipment, the front side piping specification serves as the local drainage connection. When connecting on the rear side, please remove the rear side plug sealing corks, and attach a front side. Ensure there is no leak after the attachment has been fitted.
Note 3. Take notice of service space as Fig. A. (In case of single installation, 600mm or more of back space as front space makes easier access when servicing the unit from rear side)
Note 4. If water pipes or refrigerant pipes stretch upward, required space for service and maintenance due to replacement of control box is shown in Fig. B.
Note 5. In case the temperature around the heat source unit has possibility to drop under 0°C or the inlet-water temp. drops under 10°C, be careful for the following point to prevent the pipe burst by the water pipe freeze-up.
· Add brine to water circuit.
· Circulate the water all the time even if the heat source unit is not in operation.
· Drain the water from inside of the heat source unit when the heat source unit will not operate for a long term.
Note 6. Ensure that the drain piping is downward with a pitch of more than 1/100.
Note 7. The detachable leg can be removed at site.
Note 8. At brazing of pipes, wrap the refrigerant service valve with wet cloth and keep the temperature of refrigerant service valve under 120°C.

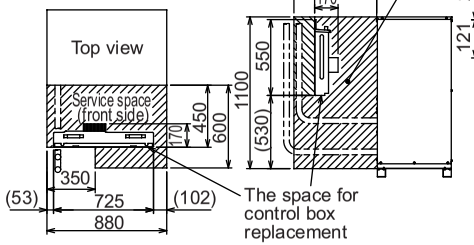


Fig. A

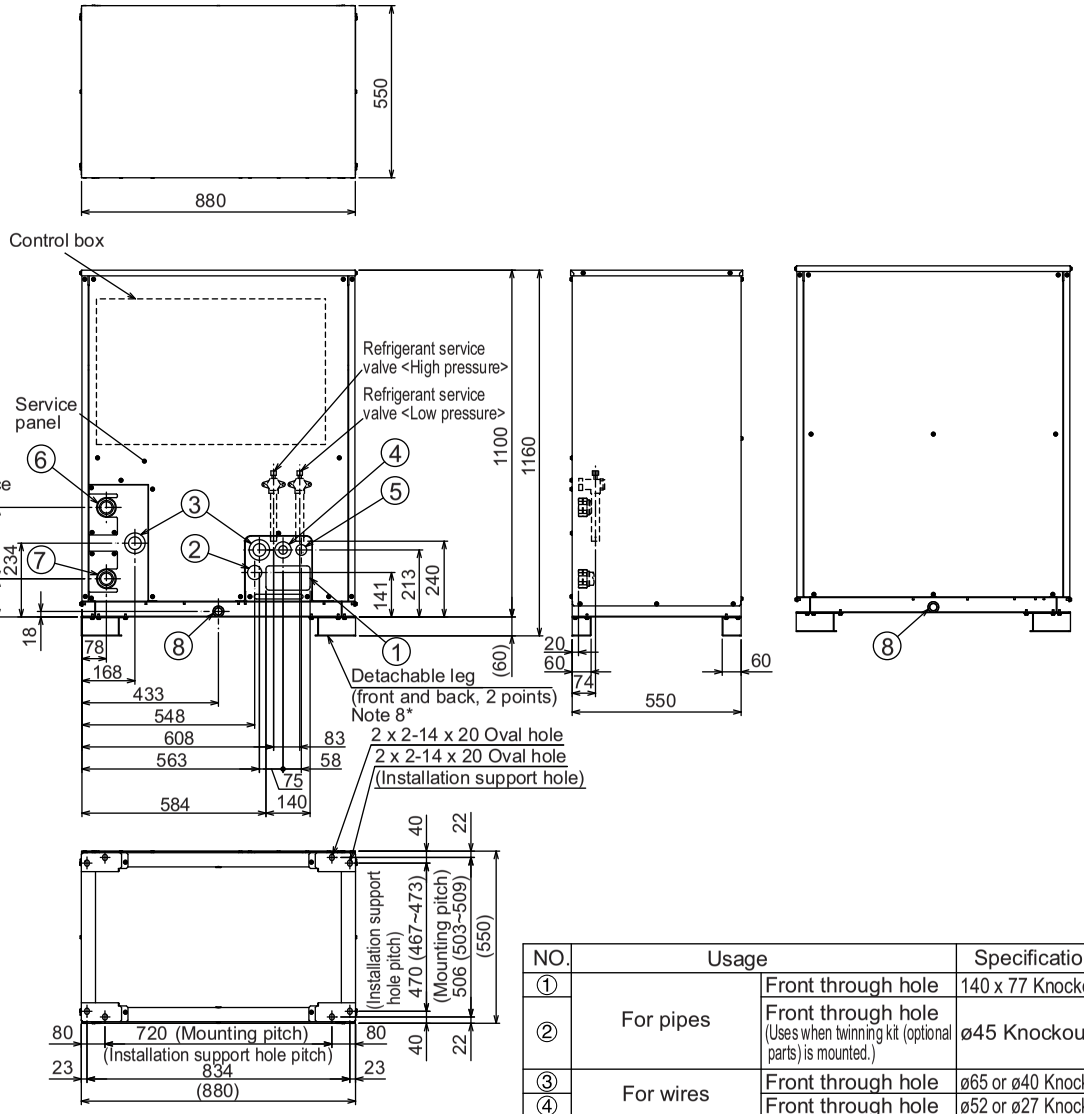


Fig. B

<Accessories>
·Refrigerant (high pressure) conn. pipe ·····1 pc.
(P200 ; Packaged in the accessory kit)
·Refrigerant (low pressure) conn. pipe ·····1 pc.
(P200/P250 ; Packaged in the accessory kit)

Connecting pipe specifications

Model	Connection specifications for the refrigerant service valve	
	High pressure	Low pressure
PQRY-P200YHM-A	ø15.88 Brazed*2	ø19.05 Brazed*2
PQRY-P250YHM-A	ø19.05 Brazed*1	ø22.2 Brazed *2
PQRY-P300YHM-A		

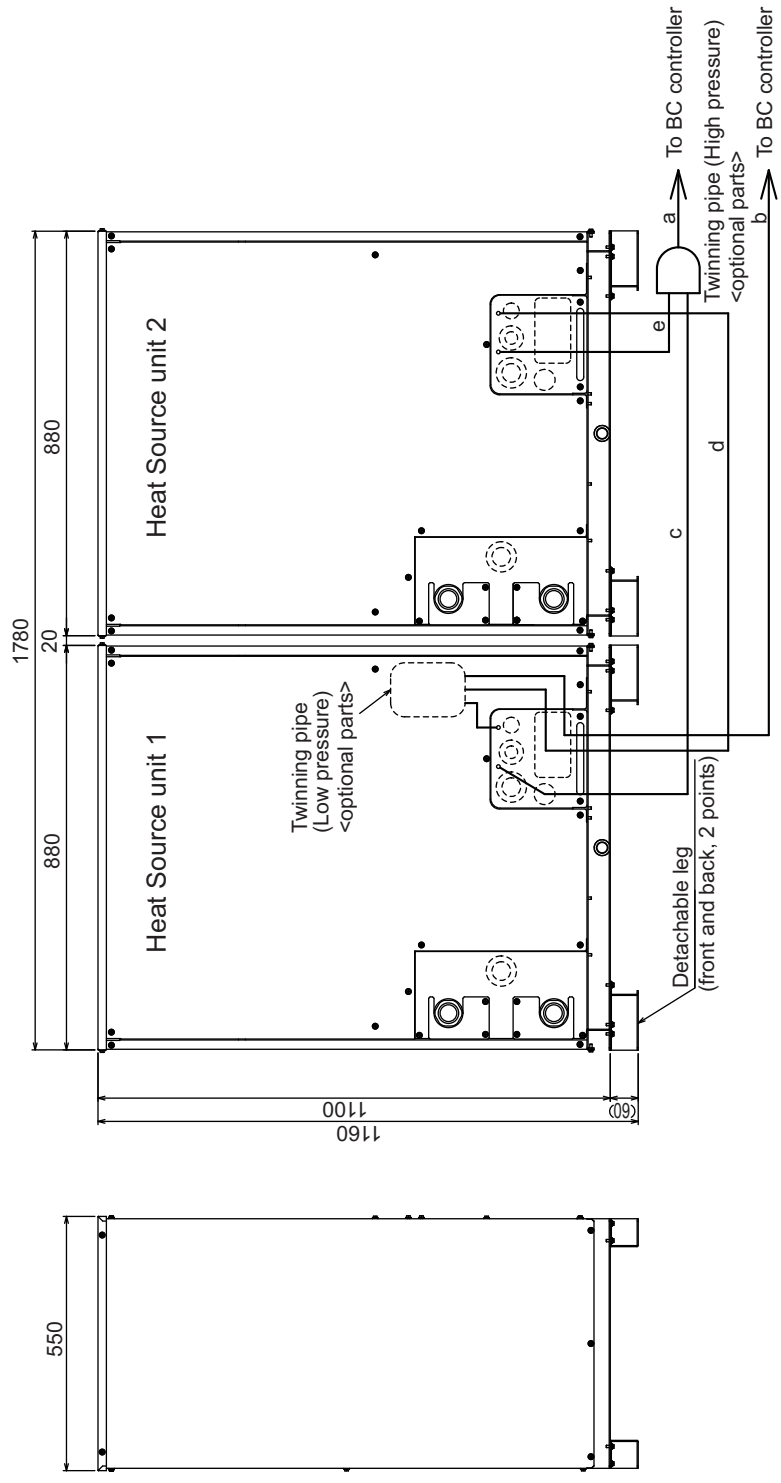
*1.Expand the field pipes and connect directly to the valve.
*2.Connect by using the connecting pipes that are supplied.

NO.	Usage		Specifications
①	For pipes	Front through hole	140 x 77 Knockout hole
②		Front through hole (Uses when twinning kit (optional parts) is mounted.)	ø45 Knockout hole
③	For wires	Front through hole	ø65 or ø40 Knockout hole
④		Front through hole	ø52 or ø27 Knockout hole
⑤	For transmission cables	Front through hole	ø34 Knockout hole
⑥	Water pipe	inlet	Rc1-1/2 Screw
⑦		outlet	Rc1-1/2 Screw
⑧	Drain pipe	Rc3/4 Screw	

Unit : mm

PQRY-P400,450,500,550,600YSHM-A

Unit : mm



Note 1. Connect the pipes as shown in the figure above. Refer to the table below for the pipe size.
2. The detachable leg can be removed at site.
3. Twinning pipe (High pressure) should not be tilted more than 15 degrees from the ground.
4. See the Installation Manual for the details of Twinning pipe installation.

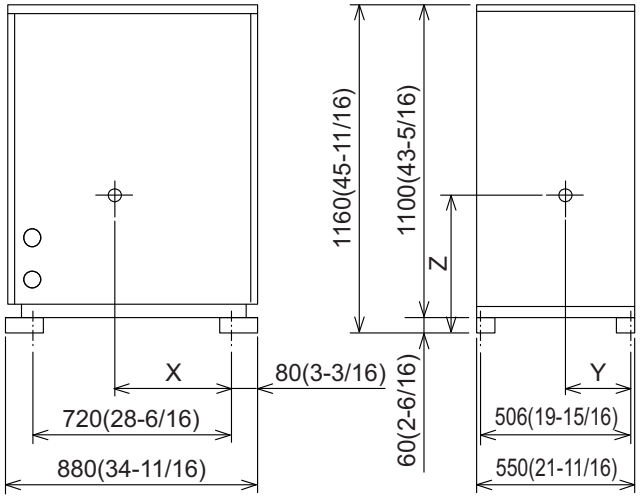
Twinning pipe connection size

Package unit name			PQRY-P400YSHM-A	PQRY-P450YSHM-A	PQRY-P500YSHM-A	PQRY-P550YSHM-A	PQRY-P600YSHM-A
Component unit name	Heat Source unit 1		PQRY-P200YHM-A	PQRY-P250YHM-A	PQRY-P250YHM-A	PQRY-P300YHM-A	PQRY-P300YHM-A
	Heat Source unit 2		PQRY-P200YHM-A	PQRY-P200YHM-A	PQRY-P250YHM-A	PQRY-P250YHM-A	PQRY-P300YHM-A
Twinning pipe Kit (optional parts)			CMY-Q100VBK				
BC controller ~ Twinning pipe		High pressure	a	ø22.2		ø28.58	
		Low pressure	b	ø28.58			

	Unit model	High pressure	Low pressure
Twinning pipe ~ Heat source unit	P200	c or e	d
	P250	ø19.05	ø22.2
	P300		

(3) Center of gravity

PQRY-P200,250,300YHM-A

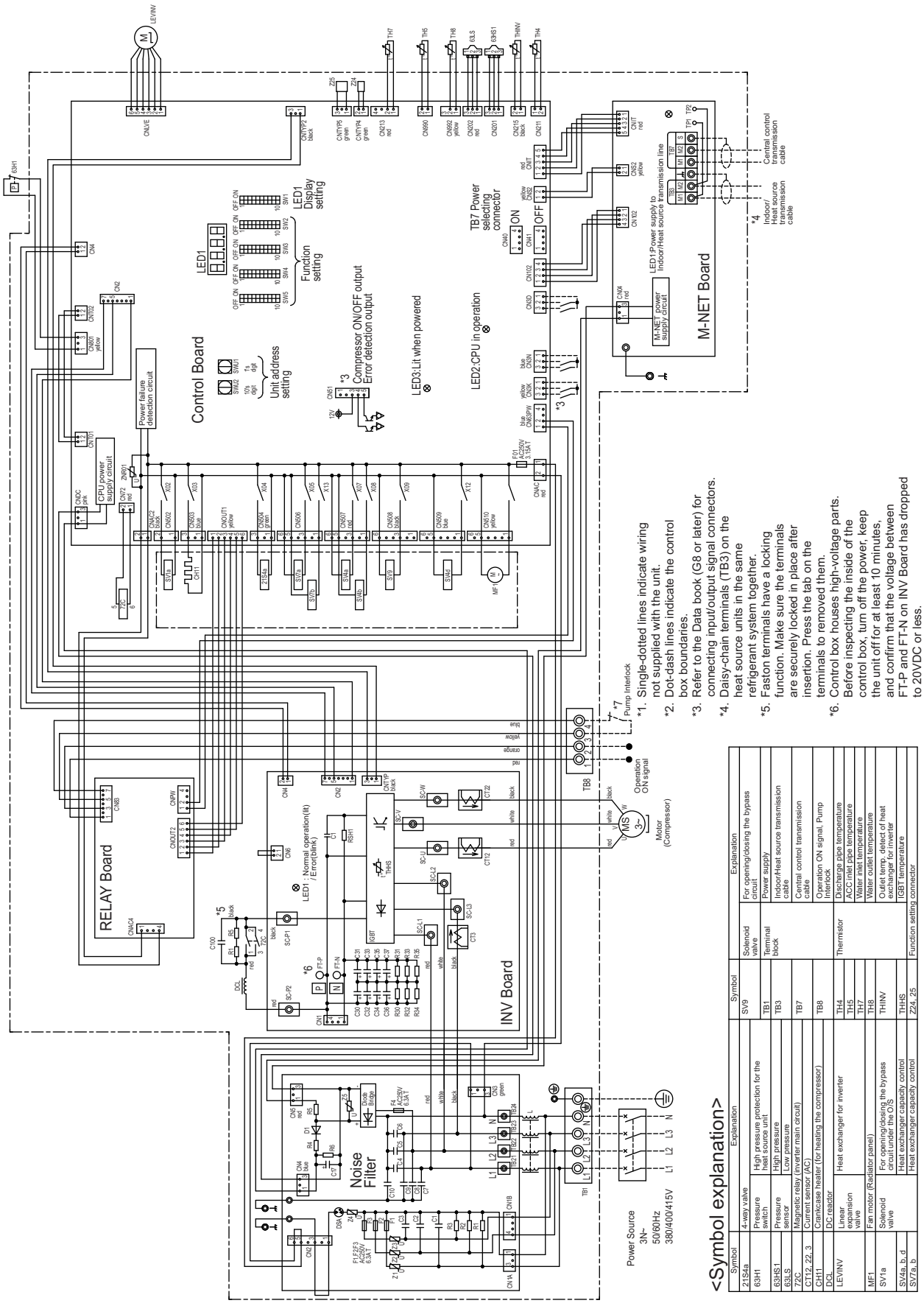


Unit : mm[in.]

Model	X	Y	Z
PQRY-P200YHM-A(-BS)	423(16-11/16)	253(10)	524(20-11/16)
PQRY-P250YHM-A(-BS)	423(16-11/16)	253(10)	524(20-11/16)
PQRY-P300YHM-A(-BS)	423(16-11/16)	253(10)	524(20-11/16)

(4) Electrical wiring diagram

PQRY-P200,250,300YHM-A



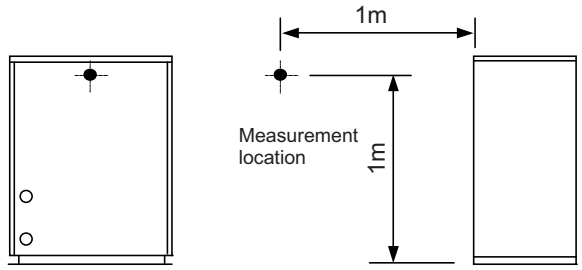
<Symbol explanation>

Symbol	Explanation		Symbol	Explanation	
21S4a	4-way valve		SV9	Solenoid valve	For opening/closing the bypass circuit
63H1	Pressure switch	High pressure protection for the heat source unit	TB1	Terminal block	Power supply
63HS1	Pressure sensor	High pressure	TB3		Indoor/Heat source transmission cable
63LS	Pressure switch	Low pressure	TB7		Central control transmission cable
72C	Magnetic relay (Inverter main circuit)		TB8		Operation ON signal, Pump interlock
CT12, 22, 3	Current sensor (AC)		TH4	Thermistor	Discharge pipe temperature
CH11	Crankcase heater (for heating the compressor)		TH5		ACC inlet pipe temperature
DCL	DC reactor		TH7		Water inlet temperature
LEVINV	Linear expansion valve	Heat exchanger for inverter	TH8		Water outlet temperature
MF1	Fan motor (Radiator panel)		THINV		Outlet temp. detect of heat exchanger for inverter
SV1a	Solenoid valve	For opening/closing the bypass circuit under the O/S	THHS		IGBT temperature
SV4a, b, d		Heat exchanger capacity control	Z24, 25	Function setting connector	
SV7a, b		Heat exchanger capacity control			

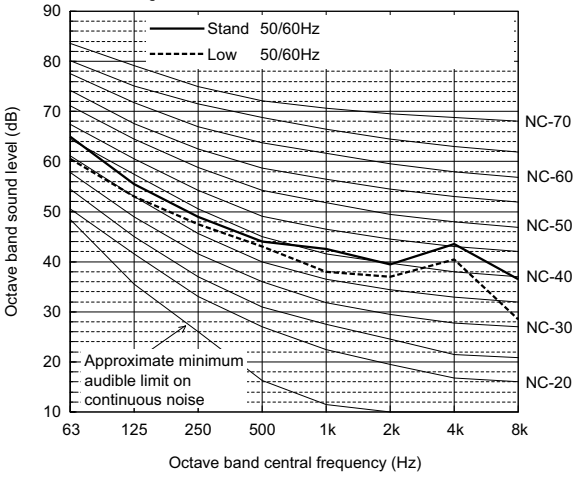
*1. Single-dotted lines indicate wiring not supplied with the unit.
*2. Dot-dash lines indicate the control box boundaries.
*3. Refer to the Data book (G8 or later) for connecting input/output signal connectors.
*4. Daisy-chain terminals (TB3) on the heat source units in the same refrigerant system together.
*5. Faston terminals have a locking function. Make sure the terminals are securely locked in place after insertion. Press the tab on the terminals to removed them.
*6. Control box houses high-voltage parts. Before inspecting the inside of the control box, turn off the power, keep the unit off for at least 10 minutes, and confirm that the voltage between FT-P and FT-N on INV Board has dropped to 20VDC or less.
*7. Refer to the Data book (G8 or later) for wiring terminal block for Pump Interlock (TB8).

(5) Sound levels

Measurement condition
PQRY-P200,250,300YHM-A



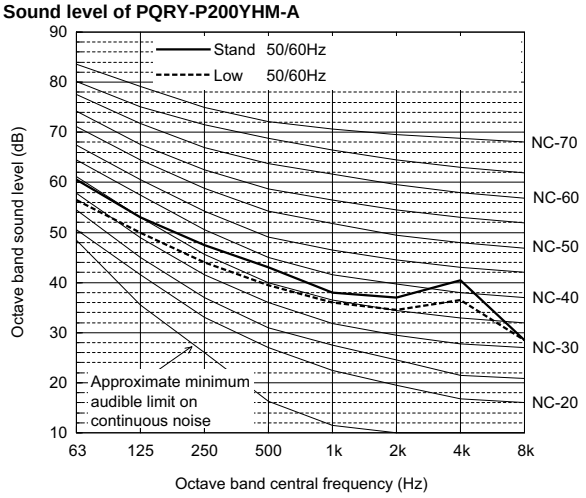
Sound level of PQRY-P300YHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	65.0	55.5	49.0	44.0	42.5	39.5	43.5	36.5	50.0
Low noise mode	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

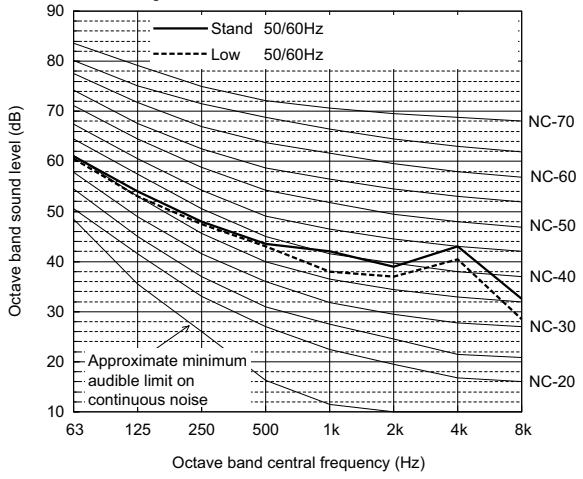
Sound level of PQRY-P200YHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0
Low noise mode	50/60Hz	56.5	50.0	44.0	39.5	36.0	34.5	36.5	28.5	44.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

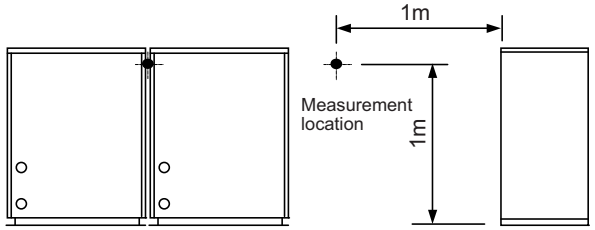
Sound level of PQRY-P250YHM-A



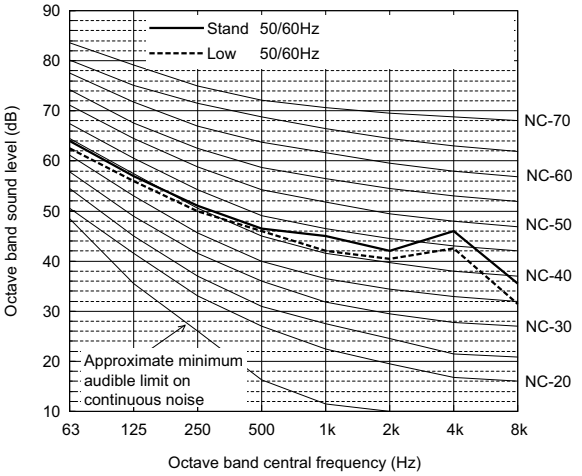
		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	61.0	54.0	48.0	43.5	42.0	39.0	43.0	32.5	49.0
Low noise mode	50/60Hz	60.5	53.0	47.5	43.0	38.0	37.0	40.5	28.5	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Measurement condition
PQRY-P400,450,500,550,600YSHM-A



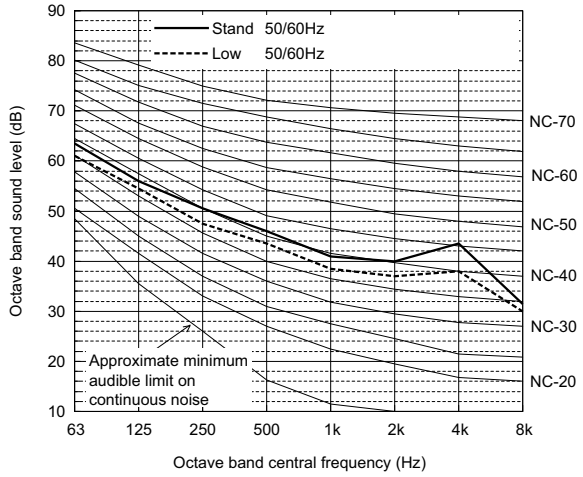
Sound level of PQRY-P500YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	64.0	57.0	51.0	46.5	45.0	42.0	46.0	35.5	52.0
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

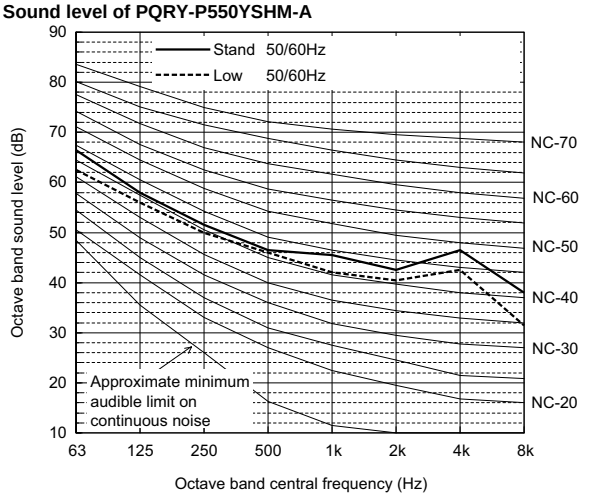
Sound level of PQRY-P400YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	63.5	56.0	50.5	46.0	41.0	40.0	43.5	31.5	50.0
Low noise mode	50/60Hz	61.0	54.5	47.5	43.5	38.5	37.0	38.0	30.0	47.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

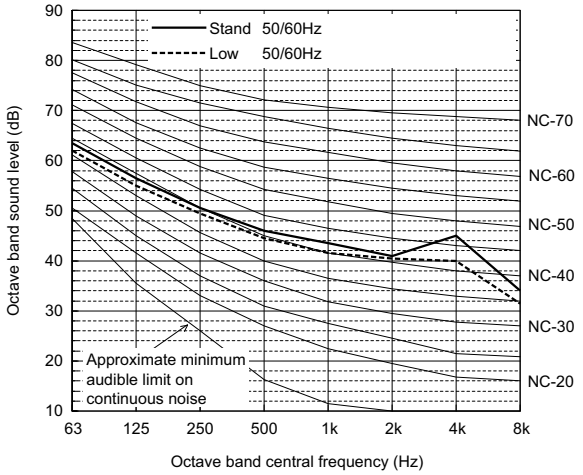
Sound level of PQRY-P550YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	66.5	58.0	51.5	46.5	45.5	42.5	46.5	38.0	52.5
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

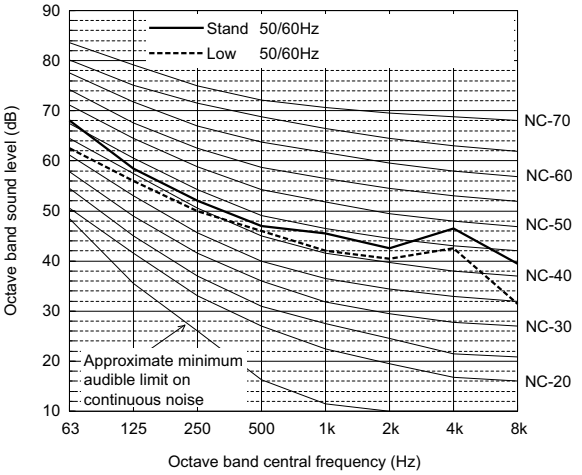
Sound level of PQRY-P450YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	63.5	56.5	50.5	46.0	43.5	41.0	45.0	34.0	51.0
Low noise mode	50/60Hz	62.0	55.0	49.5	44.5	41.5	40.5	40.0	31.5	49.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

Sound level of PQRY-P600YSHM-A



		63	125	250	500	1k	2k	4k	8k	dB(A)
Standard	50/60Hz	68.0	58.5	52.0	47.0	45.5	42.5	46.5	39.5	53.0
Low noise mode	50/60Hz	62.5	56.0	50.0	46.0	42.0	40.5	42.5	31.5	50.0

When Low noise mode is set,the A/C system's capacity is limited. The system could return to normal operation from Low noise mode automatically in the case that the operation condition is severe.

(6) Capacity tables with indoor units

(6)-1 Cooling capacity with standard indoor units

PEFY-P-VMH-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
40 (4.5)	23	-5.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	32	0.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	41	5.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	50	10.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	68	20.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	86	30.0	4.1	3.1	4.2	3.2	4.4	3.2	4.5	3.4	4.5	3.3	4.5	3.2	4.5	3.0
	104	40.0	3.6	2.9	3.7	3.0	3.9	3.0	4.0	3.2	4.0	3.1	4.0	3.0	4.0	2.9
	113	45.0	3.4	2.8	3.5	2.9	3.7	2.9	3.8	3.1	3.8	3.0	3.8	2.9	3.8	2.8
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.4	5.0	3.6	5.0	3.6	5.0	3.4	5.0	3.2
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.3	4.7	3.1
63 (7.1)	23	-5.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	32	0.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	41	5.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	50	10.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	68	20.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	86	30.0	6.4	4.8	6.6	5.0	6.9	4.9	7.1	5.2	7.1	5.1	7.1	4.8	7.1	4.6
	104	40.0	5.7	4.5	5.8	4.6	6.2	4.6	6.3	4.9	6.3	4.7	6.3	4.5	6.3	4.4
	113	45.0	5.3	4.3	5.5	4.5	5.8	4.4	5.9	4.7	5.9	4.6	5.9	4.4	5.9	4.2
71 (8.0)	23	-5.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	32	0.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	41	5.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	50	10.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	68	20.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	86	30.0	7.2	5.4	7.4	5.5	7.8	5.5	8.0	5.8	8.0	5.6	8.0	5.4	8.0	5.1
	104	40.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.8
	113	45.0	6.0	4.8	6.2	5.0	6.5	4.9	6.7	5.2	6.7	5.1	6.7	4.9	6.7	4.7
80 (9.0)	23	-5.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	32	0.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	41	5.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	50	10.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	68	20.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	86	30.0	8.1	6.1	8.3	6.3	8.8	6.2	9.0	6.5	9.0	6.4	9.0	6.1	9.0	5.8
	104	40.0	7.2	5.7	7.4	5.8	7.8	5.8	8.0	6.1	8.0	6.0	8.0	5.7	8.0	5.5
	113	45.0	6.8	5.5	7.0	5.6	7.3	5.6	7.5	5.9	7.5	5.8	7.5	5.6	7.5	5.3
100 (11.2)	23	-5.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	32	0.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	41	5.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	50	10.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	68	20.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	86	30.0	10.1	8.3	10.4	8.5	10.9	8.4	11.2	9.0	11.2	8.8	11.2	8.4	11.2	8.1
	104	40.0	9.0	7.7	9.2	8.0	9.7	7.9	10.0	8.5	10.0	8.3	10.0	8.0	10.0	7.7
	113	45.0	8.4	7.5	8.7	7.8	9.1	7.7	9.4	8.2	9.4	8.1	9.4	7.8	9.4	7.5
125 (14.0)	23	-5.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	32	0.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	41	5.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	50	10.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	68	20.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	86	30.0	12.6	9.5	13.0	9.7	13.7	9.6	14.0	10.1	14.0	9.9	14.0	9.5	14.0	9.0
	104	40.0	11.2	8.8	11.5	9.1	12.1	8.9	12.5	9.5	12.5	9.3	12.5	8.9	12.5	8.5
	113	45.0	10.5	8.5	10.8	8.7	11.4	8.6	11.7	9.2	11.7	9.0	11.7	8.6	11.7	8.3
140 (16.0)	23	-5.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	32	0.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	41	5.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	50	10.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	68	20.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	86	30.0	14.4	10.8	14.8	11.1	15.6	11.0	16.0	11.6	16.0	11.3	16.0	10.8	16.0	10.3
	104	40.0	12.8	10.1	13.2	10.4	13.9	10.2	14.2	10.9	14.2	10.6	14.2	10.2	14.2	9.7
	113	45.0	12.0	9.7	12.4	10.0	13.0	9.9	13.4	10.5	13.4	10.3	13.4	9.8	13.4	9.4
200 (22.4)	23	-5.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	32	0.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	41	5.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	50	10.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	68	20.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	86	30.0	20.2	15.5	20.7	16.0	21.8	15.8	22.4	16.7	22.4	16.3	22.4	15.6	22.4	14.9
	104	40.0	17.9	14.5	18.4	14.9	19.4	14.7	19.9	15.7	19.9	15.4	19.9	14.7	19.9	14.1
	113	45.0	16.8	14.0	17.3	14.4	18.2	14.2	18.7	15.2	18.7	14.9	18.7	14.3	18.7	13.7
250 (28.0)	23	-5.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	32	0.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	41	5.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	50	10.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	68	20.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	86	30.0	25.2	19.3	25.9	19.9	27.3	19.6	28.0	20.7	28.0	20.3	28.0	19.4	28.0	18.5
	104	40.0	22.4	18.0	23.1	18.5	24.3	18.3	24.9	19.5	24.9	19.1	24.9	18.3	24.9	17.5
	113	45.0	21.0	17.3	21.6	17.9	22.8	17.7	23.4	18.8	23.4	18.5	23.4	17.7	23.4	17.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMR-E-L/R

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	32	0.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	41	5.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	50	10.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	68	20.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	86	30.0	2.0	1.7	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.8	2.2	1.7	2.2	1.6
	104	40.0	1.8	1.6	1.8	1.6	1.9	1.6	2.0	1.7	2.0	1.7	2.0	1.6	2.0	1.6
	113	45.0	1.7	1.5	1.7	1.6	1.8	1.6	1.8	1.7	1.8	1.6	1.8	1.6	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.9	2.5	1.8	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.8	2.3	1.8	2.3	1.9	2.3	1.8	2.3	1.8	2.3	1.7
32 (3.6)	23	-5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	32	0.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	41	5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	50	10.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	68	20.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	86	30.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	104	40.0	2.9	2.2	3.0	2.2	3.1	2.2	3.2	2.3	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.1	2.9	2.1	3.0	2.2	3.0	2.2	3.0	2.1	3.0	2.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMS1(L)-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
15 (1.7)	23	-5.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	32	0.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	41	5.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	50	10.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	68	20.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	86	30.0	1.5	1.4	1.6	1.5	1.7	1.5	1.7	1.6	1.7	1.6	1.7	1.5	1.7	1.5
	104	40.0	1.4	1.4	1.4	1.4	1.5	1.4	1.5	1.5	1.5	1.5	1.5	1.4	1.5	1.4
	113	45.0	1.3	1.3	1.3	1.3	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	32	0.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	41	5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	50	10.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	68	20.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	86	30.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	104	40.0	1.8	1.6	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.7
	113	45.0	1.7	1.6	1.7	1.6	1.8	1.6	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.6
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	1.9	2.3	1.9	2.3	2.1	2.3	2.0	2.3	2.0	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.4	3.2	2.5	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.3	3.0	2.4	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.9	4.0	3.0	4.0	3.0	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.8	3.8	2.9	3.8	2.9	3.8	2.8	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.8	5.6	4.0	5.6	3.9	5.6	3.7	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.5	5.0	3.7	5.0	3.6	5.0	3.5	5.0	3.3
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.4	4.7	3.6	4.7	3.5	4.7	3.3	4.7	3.2
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.4	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PEFY-P-VMA(L)-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.9	2.1	1.8	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.8	1.9	1.8	2.0	1.9	2.0	1.9	2.0	1.8	2.0	1.7
	113	45.0	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.0	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	1.9	2.5	2.1	2.5	2.0	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.8	2.2	1.9	2.3	1.9	2.3	2.0	2.3	2.0	2.3	1.9	2.3	1.8
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.2	3.0	2.4	3.0	2.3	3.0	2.2	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	32	0.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	41	5.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	50	10.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	68	20.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	86	30.0	4.1	3.3	4.2	3.4	4.4	3.4	4.5	3.6	4.5	3.5	4.5	3.4	4.5	3.3
	104	40.0	3.6	3.1	3.7	3.2	3.9	3.2	4.0	3.4	4.0	3.3	4.0	3.2	4.0	3.1
	113	45.0	3.4	3.0	3.5	3.1	3.7	3.1	3.8	3.3	3.8	3.3	3.8	3.1	3.8	3.0
50 (5.6)	23	-5.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	32	0.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	41	5.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	50	10.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	68	20.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	86	30.0	5.0	4.1	5.2	4.2	5.5	4.2	5.6	4.4	5.6	4.3	5.6	4.2	5.6	4.0
	104	40.0	4.5	3.8	4.6	4.0	4.9	3.9	5.0	4.2	5.0	4.1	5.0	3.9	5.0	3.8
	113	45.0	4.2	3.7	4.3	3.8	4.6	3.8	4.7	4.1	4.7	4.0	4.7	3.8	4.7	3.7
63 (7.1)	23	-5.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	32	0.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	41	5.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	50	10.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	68	20.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	86	30.0	6.4	5.1	6.6	5.2	6.9	5.1	7.1	5.5	7.1	5.3	7.1	5.1	7.1	4.9
	104	40.0	5.7	4.7	5.8	4.9	6.2	4.8	6.3	5.1	6.3	5.0	6.3	4.8	6.3	4.6
	113	45.0	5.3	4.6	5.5	4.7	5.8	4.7	5.9	5.0	5.9	4.9	5.9	4.7	5.9	4.5
71 (8.0)	23	-5.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	32	0.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	41	5.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	50	10.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	68	20.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	86	30.0	7.2	5.5	7.4	5.6	7.8	5.6	8.0	5.9	8.0	5.8	8.0	5.5	8.0	5.3
	104	40.0	6.4	5.1	6.6	5.3	6.9	5.2	7.1	5.5	7.1	5.4	7.1	5.2	7.1	5.0
	113	45.0	6.0	4.9	6.2	5.1	6.5	5.0	6.7	5.3	6.7	5.2	6.7	5.0	6.7	4.8
80 (9.0)	23	-5.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	32	0.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	41	5.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	50	10.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	68	20.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	86	30.0	8.1	5.9	8.3	6.1	8.8	6.0	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.6
	104	40.0	7.2	5.5	7.4	5.6	7.8	5.5	8.0	5.8	8.0	5.7	8.0	5.5	8.0	5.2
	113	45.0	6.8	5.2	7.0	5.4	7.3	5.3	7.5	5.6	7.5	5.5	7.5	5.3	7.5	5.0
100 (11.2)	23	-5.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	32	0.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	41	5.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	50	10.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	68	20.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	86	30.0	10.1	8.1	10.4	8.4	10.9	8.3	11.2	8.8	11.2	8.6	11.2	8.3	11.2	7.9
	104	40.0	9.0	7.6	9.2	7.9	9.7	7.8	10.0	8.3	10.0	8.2	10.0	7.8	10.0	7.5
	113	45.0	8.4	7.4	8.7	7.6	9.1	7.5	9.4	8.1	9.4	7.9	9.4	7.6	9.4	7.4
125 (14.0)	23	-5.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	32	0.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	41	5.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	50	10.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	68	20.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	86	30.0	12.6	9.9	13.0	10.2	13.7	10.1	14.0	10.7	14.0	10.4	14.0	10.0	14.0	9.6
	104	40.0	11.2	9.2	11.5	9.5	12.1	9.4	12.5	10.0	12.5	9.8	12.5	9.4	12.5	9.1
	113	45.0	10.5	8.9	10.8	9.2	11.4	9.1	11.7	9.7	11.7	9.5	11.7	9.2	11.7	8.8
140 (16.0)	23	-5.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	32	0.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	41	5.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	50	10.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	68	20.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	86	30.0	14.4	11.2	14.8	11.5	15.6	11.4	16.0	12.0	16.0	11.8	16.0	11.3	16.0	10.8
	104	40.0	12.8	10.4	13.2	10.8	13.9	10.6	14.2	11.3	14.2	11.1	14.2	10.6	14.2	10.2
	113	45.0	12.0	10.1	12.4	10.4	13.0	10.3	13.4	11.0	13.4	10.7	13.4	10.3	13.4	9.9

kcal/h=kW x 860 , BTU/h = kW x 3,412

PMFY-P-VBM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.7
	113	45.0	1.7	1.6	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.7	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	32	0.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	41	5.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	50	10.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	68	20.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	86	30.0	2.5	2.2	2.6	2.2	2.7	2.2	2.8	2.4	2.8	2.3	2.8	2.2	2.8	2.1
	104	40.0	2.2	2.0	2.3	2.1	2.4	2.1	2.5	2.2	2.5	2.2	2.5	2.1	2.5	2.0
	113	45.0	2.1	2.0	2.2	2.0	2.3	2.0	2.3	2.2	2.3	2.1	2.3	2.1	2.3	2.0
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.3	3.0	2.4	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.1	4.5	3.2	4.5	3.2	4.5	3.0	4.5	2.9
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.9	4.0	3.0	4.0	3.0	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.8	3.8	2.9	3.8	2.9	3.8	2.7	3.8	2.6

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VLMD-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	32	0.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	41	5.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	50	10.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	68	20.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	86	30.0	2.0	1.8	2.0	1.9	2.1	1.9	2.2	2.0	2.2	2.0	2.2	1.9	2.2	1.8
	104	40.0	1.8	1.7	1.8	1.8	1.9	1.8	2.0	1.9	2.0	1.9	2.0	1.8	2.0	1.8
	113	45.0	1.7	1.7	1.7	1.7	1.8	1.7	1.8	1.8	1.8	1.8	1.8	1.8	1.8	1.7
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.2	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	1.9	2.3	1.9	2.3	2.1	2.3	2.0	2.3	1.9	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.5	3.5	2.5	3.6	2.6	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.3	3.2	2.5	3.2	2.4	3.2	2.3	3.2	2.2
	113	45.0	2.7	2.2	2.8	2.3	2.9	2.2	3.0	2.4	3.0	2.3	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	32	0.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	41	5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	50	10.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	68	20.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	86	30.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	104	40.0	3.6	2.6	3.7	2.7	3.9	2.7	4.0	2.8	4.0	2.7	4.0	2.6	4.0	2.5
	113	45.0	3.4	2.5	3.5	2.6	3.7	2.6	3.8	2.7	3.8	2.6	3.8	2.5	3.8	2.4
50 (5.6)	23	-5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	32	0.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	41	5.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	50	10.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	68	20.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	86	30.0	5.0	3.7	5.2	3.8	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.5
	104	40.0	4.5	3.4	4.6	3.5	4.9	3.4	5.0	3.6	5.0	3.6	5.0	3.4	5.0	3.2
	113	45.0	4.2	3.3	4.3	3.4	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.3	4.7	3.1
63 (7.1)	23	-5.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	32	0.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	41	5.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	50	10.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	68	20.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	86	30.0	6.4	4.5	6.6	4.7	6.9	4.6	7.1	4.8	7.1	4.7	7.1	4.5	7.1	4.2
	104	40.0	5.7	4.2	5.8	4.3	6.2	4.2	6.3	4.5	6.3	4.4	6.3	4.1	6.3	4.0
	113	45.0	5.3	4.0	5.5	4.1	5.8	4.1	5.9	4.3	5.9	4.2	5.9	4.0	5.9	3.8
80 (9.0)	23	-5.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	32	0.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	41	5.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	50	10.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	68	20.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	86	30.0	8.1	6.0	8.3	6.2	8.8	6.1	9.0	6.4	9.0	6.3	9.0	6.0	9.0	5.7
	104	40.0	7.2	5.6	7.4	5.7	7.8	5.7	8.0	6.0	8.0	5.9	8.0	5.6	8.0	5.4
	113	45.0	6.8	5.4	7.0	5.5	7.3	5.5	7.5	5.8	7.5	5.7	7.5	5.4	7.5	5.2
100 (11.2)	23	-5.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	32	0.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	41	5.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	50	10.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	68	20.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	86	30.0	10.1	7.4	10.4	7.6	10.9	7.5	11.2	7.9	11.2	7.7	11.2	7.3	11.2	7.0
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.2	10.0	6.9	10.0	6.6
	113	45.0	8.4	6.6	8.7	6.8	9.1	6.7	9.4	7.1	9.4	6.9	9.4	6.6	9.4	6.3
125 (14.0)	23	-5.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	32	0.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	41	5.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	50	10.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	68	20.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	86	30.0	12.6	9.4	13.0	9.7	13.7	9.5	14.0	10.1	14.0	9.8	14.0	9.4	14.0	8.9
	104	40.0	11.2	8.7	11.5	9.0	12.1	8.9	12.5	9.4	12.5	9.2	12.5	8.8	12.5	8.4
	113	45.0	10.5	8.4	10.8	8.7	11.4	8.5	11.7	9.1	11.7	8.9	11.7	8.5	11.7	8.2

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VCM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	32	0.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	41	5.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	50	10.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	68	20.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	86	30.0	2.0	1.7	2.0	1.8	2.1	1.8	2.2	1.9	2.2	1.9	2.2	1.8	2.2	1.7
	104	40.0	1.8	1.6	1.8	1.7	1.9	1.7	2.0	1.8	2.0	1.8	2.0	1.7	2.0	1.6
	113	45.0	1.7	1.6	1.7	1.6	1.8	1.6	1.8	1.8	1.8	1.7	1.8	1.7	1.8	1.6
25 (2.8)	23	-5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	32	0.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	41	5.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	50	10.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	68	20.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	86	30.0	2.5	2.1	2.6	2.1	2.7	2.1	2.8	2.3	2.8	2.2	2.8	2.1	2.8	2.0
	104	40.0	2.2	1.9	2.3	2.0	2.4	2.0	2.5	2.1	2.5	2.1	2.5	2.0	2.5	1.9
	113	45.0	2.1	1.9	2.2	2.0	2.3	1.9	2.3	2.1	2.3	2.0	2.3	2.0	2.3	1.9
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.6	3.6	2.5	3.6	2.4
	104	40.0	2.9	2.3	3.0	2.4	3.1	2.4	3.2	2.5	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.3	2.8	2.3	2.9	2.3	3.0	2.5	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	32	0.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	41	5.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	50	10.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	68	20.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	86	30.0	4.1	2.9	4.2	3.0	4.4	3.0	4.5	3.1	4.5	3.0	4.5	2.9	4.5	2.7
	104	40.0	3.6	2.7	3.7	2.8	3.9	2.7	4.0	2.9	4.0	2.8	4.0	2.7	4.0	2.6
	113	45.0	3.4	2.6	3.5	2.7	3.7	2.6	3.8	2.8	3.8	2.7	3.8	2.6	3.8	2.5

kcal/h=kW x 860 , BTU/h = kW x 3,412

PLFY-P-VBM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
32 (3.6)	23	-5.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	32	0.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	41	5.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	50	10.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	68	20.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	86	30.0	3.2	2.8	3.3	2.8	3.5	2.8	3.6	3.0	3.6	2.9	3.6	2.8	3.6	2.7
	104	40.0	2.9	2.6	3.0	2.7	3.1	2.7	3.2	2.8	3.2	2.8	3.2	2.7	3.2	2.6
	113	45.0	2.7	2.5	2.8	2.6	2.9	2.6	3.0	2.8	3.0	2.7	3.0	2.6	3.0	2.5
40 (4.5)	23	-5.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	32	0.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	41	5.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	50	10.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	68	20.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	86	30.0	4.1	3.3	4.2	3.5	4.4	3.4	4.5	3.6	4.5	3.6	4.5	3.4	4.5	3.3
	104	40.0	3.6	3.1	3.7	3.3	3.9	3.2	4.0	3.4	4.0	3.4	4.0	3.2	4.0	3.1
	113	45.0	3.4	3.0	3.5	3.2	3.7	3.1	3.8	3.3	3.8	3.3	3.8	3.2	3.8	3.1
50 (5.6)	23	-5.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	32	0.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	41	5.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	50	10.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	68	20.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	86	30.0	5.0	3.9	5.2	4.0	5.5	3.9	5.6	4.1	5.6	4.0	5.6	3.9	5.6	3.7
	104	40.0	4.5	3.6	4.6	3.7	4.9	3.6	5.0	3.9	5.0	3.8	5.0	3.6	5.0	3.5
	113	45.0	4.2	3.5	4.3	3.6	4.6	3.5	4.7	3.8	4.7	3.7	4.7	3.5	4.7	3.4
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	32	0.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	41	5.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	50	10.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	68	20.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	86	30.0	6.4	4.7	6.6	4.9	6.9	4.8	7.1	5.0	7.1	4.9	7.1	4.7	7.1	4.5
	104	40.0	5.7	4.4	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.4	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.3	5.9	4.6	5.9	4.5	5.9	4.3	5.9	4.1
80 (9.0)	23	-5.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	32	0.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	41	5.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	50	10.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	68	20.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	86	30.0	8.1	5.9	8.3	6.0	8.8	5.9	9.0	6.3	9.0	6.1	9.0	5.8	9.0	5.5
	104	40.0	7.2	5.4	7.4	5.6	7.8	5.5	8.0	5.8	8.0	5.7	8.0	5.4	8.0	5.2
	113	45.0	6.8	5.2	7.0	5.4	7.3	5.3	7.5	5.6	7.5	5.5	7.5	5.2	7.5	5.0
100 (11.2)	23	-5.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	32	0.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	41	5.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	50	10.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	68	20.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	86	30.0	10.1	7.4	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.1	10.0	6.8	10.0	6.5
	113	45.0	8.4	6.5	8.7	6.7	9.1	6.6	9.4	7.0	9.4	6.9	9.4	6.6	9.4	6.3
125 (14.0)	23	-5.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	32	0.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	41	5.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	50	10.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	68	20.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	86	30.0	12.6	8.9	13.0	9.2	13.7	9.0	14.0	9.5	14.0	9.2	14.0	8.8	14.0	8.3
	104	40.0	11.2	8.2	11.5	8.4	12.1	8.3	12.5	8.8	12.5	8.6	12.5	8.2	12.5	7.8
	113	45.0	10.5	7.9	10.8	8.1	11.4	8.0	11.7	8.4	11.7	8.2	11.7	7.9	11.7	7.5

kcal/h=kW x 860 , BTU/h = kW x 3,412

PCFY-P-VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.0	4.4	3.0	4.5	3.2	4.5	3.1	4.5	2.9	4.5	2.8
	104	40.0	3.6	2.7	3.7	2.8	3.9	2.8	4.0	2.9	4.0	2.9	4.0	2.7	4.0	2.6
	113	45.0	3.4	2.6	3.5	2.7	3.7	2.7	3.8	2.8	3.8	2.8	3.8	2.7	3.8	2.5
63 (7.1)	23	-5.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	32	0.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	41	5.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	50	10.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	68	20.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	86	30.0	6.4	4.6	6.6	4.7	6.9	4.7	7.1	4.9	7.1	4.8	7.1	4.5	7.1	4.3
	104	40.0	5.7	4.2	5.8	4.4	6.2	4.3	6.3	4.5	6.3	4.4	6.3	4.2	6.3	4.0
	113	45.0	5.3	4.1	5.5	4.2	5.8	4.1	5.9	4.4	5.9	4.3	5.9	4.1	5.9	3.9
100 (11.2)	23	-5.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	32	0.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	41	5.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	50	10.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	68	20.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	86	30.0	10.1	7.1	10.4	7.3	10.9	7.2	11.2	7.5	11.2	7.4	11.2	7.0	11.2	6.6
	104	40.0	9.0	6.6	9.2	6.7	9.7	6.6	10.0	7.0	10.0	6.8	10.0	6.5	10.0	6.2
	113	45.0	8.4	6.3	8.7	6.5	9.1	6.4	9.4	6.7	9.4	6.6	9.4	6.3	9.4	6.0
125 (14.0)	23	-5.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	32	0.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	41	5.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	50	10.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	68	20.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	86	30.0	12.6	8.9	13.0	9.1	13.7	8.9	14.0	9.4	14.0	9.1	14.0	8.7	14.0	8.2
	104	40.0	11.2	8.2	11.5	8.4	12.1	8.2	12.5	8.7	12.5	8.5	12.5	8.1	12.5	7.7
	113	45.0	10.5	7.8	10.8	8.0	11.4	7.9	11.7	8.3	11.7	8.1	11.7	7.8	11.7	7.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

PKFY-P-VBM-E,VHM-E,VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
15 (1.7)	23	-5.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	32	0.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	41	5.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	50	10.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	68	20.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	86	30.0	1.5	1.1	1.6	1.1	1.7	1.1	1.7	1.2	1.7	1.2	1.7	1.1	1.7	1.1
	104	40.0	1.4	1.0	1.4	1.1	1.5	1.1	1.5	1.1	1.5	1.1	1.5	1.0	1.5	1.0
	113	45.0	1.3	1.0	1.3	1.0	1.4	1.0	1.4	1.1	1.4	1.1	1.4	1.0	1.4	1.0
20 (2.2)	23	-5.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	32	0.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	41	5.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	50	10.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	68	20.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	86	30.0	2.0	1.4	2.0	1.5	2.1	1.4	2.2	1.5	2.2	1.5	2.2	1.4	2.2	1.3
	104	40.0	1.8	1.3	1.8	1.4	1.9	1.3	2.0	1.4	2.0	1.4	2.0	1.3	2.0	1.3
	113	45.0	1.7	1.3	1.7	1.3	1.8	1.3	1.8	1.4	1.8	1.3	1.8	1.3	1.8	1.2
25 (2.8)	23	-5.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	32	0.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	41	5.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	50	10.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	68	20.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	86	30.0	2.5	1.8	2.6	1.8	2.7	1.8	2.8	1.9	2.8	1.9	2.8	1.8	2.8	1.7
	104	40.0	2.2	1.7	2.3	1.7	2.4	1.7	2.5	1.8	2.5	1.7	2.5	1.6	2.5	1.6
	113	45.0	2.1	1.6	2.2	1.6	2.3	1.6	2.3	1.7	2.3	1.7	2.3	1.6	2.3	1.5
32 (3.6)	23	-5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	32	0.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	41	5.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	50	10.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	68	20.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	86	30.0	3.2	2.5	3.3	2.6	3.5	2.6	3.6	2.7	3.6	2.7	3.6	2.6	3.6	2.4
	104	40.0	2.9	2.4	3.0	2.4	3.1	2.4	3.2	2.6	3.2	2.5	3.2	2.4	3.2	2.3
	113	45.0	2.7	2.3	2.8	2.4	2.9	2.3	3.0	2.5	3.0	2.4	3.0	2.3	3.0	2.2
40 (4.5)	23	-5.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	32	0.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	41	5.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	50	10.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	68	20.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	86	30.0	4.1	3.1	4.2	3.2	4.4	3.1	4.5	3.3	4.5	3.2	4.5	3.1	4.5	3.0
	104	40.0	3.6	2.9	3.7	3.0	3.9	2.9	4.0	3.1	4.0	3.0	4.0	2.9	4.0	2.8
	113	45.0	3.4	2.8	3.5	2.9	3.7	2.8	3.8	3.0	3.8	2.9	3.8	2.8	3.8	2.7
50 (5.6)	23	-5.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	32	0.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	41	5.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	50	10.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	68	20.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	86	30.0	5.0	3.6	5.2	3.7	5.5	3.7	5.6	3.9	5.6	3.8	5.6	3.6	5.6	3.4
	104	40.0	4.5	3.4	4.6	3.4	4.9	3.4	5.0	3.6	5.0	3.5	5.0	3.3	5.0	3.2
	113	45.0	4.2	3.2	4.3	3.3	4.6	3.3	4.7	3.5	4.7	3.4	4.7	3.2	4.7	3.1
63 (7.1)	23	-5.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	32	0.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	41	5.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	50	10.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	68	20.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	86	30.0	6.4	5.0	6.6	5.2	6.9	5.1	7.1	5.4	7.1	5.3	7.1	5.1	7.1	4.9
	104	40.0	5.7	4.7	5.8	4.8	6.2	4.8	6.3	5.1	6.3	5.0	6.3	4.8	6.3	4.6
	113	45.0	5.3	4.5	5.5	4.7	5.8	4.6	5.9	4.9	5.9	4.8	5.9	4.7	5.9	4.5
100 (11.2)	23	-5.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	32	0.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	41	5.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	50	10.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	68	20.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	86	30.0	10.1	7.3	10.4	7.5	10.9	7.4	11.2	7.8	11.2	7.6	11.2	7.3	11.2	6.9
	104	40.0	9.0	6.8	9.2	7.0	9.7	6.9	10.0	7.3	10.0	7.1	10.0	6.8	10.0	6.5
	113	45.0	8.4	6.5	8.7	6.7	9.1	6.6	9.4	7.0	9.4	6.9	9.4	6.6	9.4	6.3

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VKM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.7	2.2	1.8	2.2	1.7	2.2	1.7	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.6	2.0	1.7	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	2.0	2.7	1.9	2.8	2.1	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.8	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.9	2.5	1.8	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.8	2.3	1.8	2.3	1.9	2.3	1.8	2.3	1.8	2.3	1.7
32 (3.6)	23	-5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	32	0.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	41	5.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	50	10.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	68	20.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	86	30.0	3.2	2.3	3.3	2.4	3.5	2.4	3.6	2.5	3.6	2.4	3.6	2.3	3.6	2.2
	104	40.0	2.9	2.1	3.0	2.2	3.1	2.2	3.2	2.3	3.2	2.2	3.2	2.1	3.2	2.0
	113	45.0	2.7	2.1	2.8	2.1	2.9	2.1	3.0	2.2	3.0	2.2	3.0	2.1	3.0	2.0
40 (4.5)	23	-5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	32	0.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	41	5.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	50	10.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	68	20.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	86	30.0	4.1	2.9	4.2	2.9	4.4	2.9	4.5	3.0	4.5	3.0	4.5	2.8	4.5	2.7
	104	40.0	3.6	2.6	3.7	2.7	3.9	2.7	4.0	2.8	4.0	2.8	4.0	2.6	4.0	2.5
	113	45.0	3.4	2.5	3.5	2.6	3.7	2.6	3.8	2.7	3.8	2.6	3.8	2.5	3.8	2.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VLEM-E,VLRM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.5	2.0	1.6	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.7	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.8	2.5	1.7	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.7	2.3	1.7	2.3	1.8	2.3	1.8	2.3	1.7	2.3	1.6
32 (3.6)	23	-5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	32	0.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	41	5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	50	10.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	68	20.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	86	30.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	104	40.0	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.4	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.2	2.9	2.2	3.0	2.3	3.0	2.2	3.0	2.1	3.0	2.1
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.8	4.0	3.0	4.0	2.9	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.7	3.8	2.9	3.8	2.8	3.8	2.7	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	32	0.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	41	5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	50	10.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	68	20.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	86	30.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	104	40.0	4.5	3.5	4.6	3.6	4.9	3.6	5.0	3.8	5.0	3.7	5.0	3.6	5.0	3.4
	113	45.0	4.2	3.4	4.3	3.5	4.6	3.4	4.7	3.7	4.7	3.6	4.7	3.4	4.7	3.3
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.3	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

PFFY-P-VLRMM-E

CA:Capacity(kW) , SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.													
			71°FDB / 59°FWB 21.5°CDB / 15°CWB		73°FDB / 61°FWB 23°CDB / 16°CWB		77°FDB / 64°FWB 25°CDB / 18°CWB		81°FDB / 66°FWB 27°CDB / 19°CWB		82°FDB / 68°FWB 28°CDB / 20°CWB		86°FDB / 72°FWB 30°CDB / 22°CWB		90°FDB / 75°FWB 32°CDB / 24°CWB	
	°F	°C	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC	CA	SHC
20 (2.2)	23	-5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	32	0.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	41	5.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	50	10.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	68	20.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	86	30.0	2.0	1.6	2.0	1.7	2.1	1.6	2.2	1.7	2.2	1.7	2.2	1.6	2.2	1.6
	104	40.0	1.8	1.5	1.8	1.6	1.9	1.5	2.0	1.6	2.0	1.6	2.0	1.6	2.0	1.5
	113	45.0	1.7	1.5	1.7	1.5	1.8	1.5	1.8	1.6	1.8	1.6	1.8	1.5	1.8	1.5
25 (2.8)	23	-5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	32	0.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	41	5.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	50	10.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	68	20.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	86	30.0	2.5	1.9	2.6	1.9	2.7	1.9	2.8	2.0	2.8	2.0	2.8	1.9	2.8	1.8
	104	40.0	2.2	1.7	2.3	1.8	2.4	1.8	2.5	1.9	2.5	1.8	2.5	1.7	2.5	1.7
	113	45.0	2.1	1.7	2.2	1.7	2.3	1.7	2.3	1.8	2.3	1.8	2.3	1.7	2.3	1.6
32 (3.6)	23	-5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	32	0.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	41	5.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	50	10.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	68	20.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	86	30.0	3.2	2.4	3.3	2.5	3.5	2.4	3.6	2.5	3.6	2.5	3.6	2.4	3.6	2.3
	104	40.0	2.9	2.2	3.0	2.3	3.1	2.2	3.2	2.4	3.2	2.3	3.2	2.2	3.2	2.1
	113	45.0	2.7	2.1	2.8	2.2	2.9	2.2	3.0	2.3	3.0	2.2	3.0	2.1	3.0	2.1
40 (4.5)	23	-5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	32	0.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	41	5.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	50	10.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	68	20.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	86	30.0	4.1	3.0	4.2	3.1	4.4	3.0	4.5	3.2	4.5	3.1	4.5	3.0	4.5	2.8
	104	40.0	3.6	2.8	3.7	2.9	3.9	2.8	4.0	3.0	4.0	2.9	4.0	2.8	4.0	2.7
	113	45.0	3.4	2.7	3.5	2.8	3.7	2.7	3.8	2.9	3.8	2.8	3.8	2.7	3.8	2.6
50 (5.6)	23	-5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	32	0.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	41	5.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	50	10.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	68	20.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	86	30.0	5.0	3.8	5.2	3.9	5.5	3.8	5.6	4.1	5.6	4.0	5.6	3.8	5.6	3.6
	104	40.0	4.5	3.5	4.6	3.6	4.9	3.6	5.0	3.8	5.0	3.7	5.0	3.6	5.0	3.4
	113	45.0	4.2	3.4	4.3	3.5	4.6	3.4	4.7	3.7	4.7	3.6	4.7	3.4	4.7	3.3
63 (7.1)	23	-5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	32	0.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	41	5.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	50	10.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	68	20.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	86	30.0	6.4	4.7	6.6	4.8	6.9	4.7	7.1	5.0	7.1	4.9	7.1	4.6	7.1	4.4
	104	40.0	5.7	4.3	5.8	4.5	6.2	4.4	6.3	4.7	6.3	4.6	6.3	4.3	6.3	4.2
	113	45.0	5.3	4.2	5.5	4.3	5.8	4.2	5.9	4.5	5.9	4.4	5.9	4.2	5.9	4.0

kcal/h=kW x 860 , BTU/h = kW x 3,412

(6)-2 Heating capacity with standard indoor units

SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.				
			59°FDB 15.0°CDB	66°FDB 19.0°CDB	68°FDB 20.0°CDB	77°FDB 25.0°CDB	81°FDB 27.0°CDB
	°F	°C	SHC	SHC	SHC	SHC	SHC
15 (1.7)	23	-5.0	1.2	1.2	1.2	1.0	0.9
	32	0.0	1.4	1.4	1.4	1.2	1.1
	41	5.0	1.6	1.6	1.6	1.3	1.2
	50	10.0	1.8	1.8	1.8	1.5	1.3
	68	20.0	1.9	1.9	1.9	1.6	1.4
	86	30.0	1.9	1.9	1.9	1.6	1.4
	104	40.0	1.9	1.9	1.9	1.6	1.4
	113	45.0	1.9	1.9	1.9	1.6	1.4
20 (2.5)	23	-5.0	1.6	1.6	1.6	1.3	1.2
	32	0.0	1.9	1.9	1.9	1.5	1.4
	41	5.0	2.1	2.1	2.1	1.7	1.6
	50	10.0	2.3	2.3	2.3	1.9	1.8
	68	20.0	2.5	2.5	2.5	2.1	1.9
	86	30.0	2.5	2.5	2.5	2.1	1.9
	104	40.0	2.5	2.5	2.5	2.1	1.9
	113	45.0	2.5	2.5	2.5	2.1	1.9
25 (3.2)	23	-5.0	2.1	2.1	2.1	1.7	1.6
	32	0.0	2.4	2.4	2.4	2.0	1.8
	41	5.0	2.7	2.7	2.7	2.2	2.0
	50	10.0	3.0	3.0	3.0	2.5	2.2
	68	20.0	3.2	3.2	3.2	2.6	2.4
	86	30.0	3.2	3.2	3.2	2.6	2.4
	104	40.0	3.2	3.2	3.2	2.6	2.4
	113	45.0	3.2	3.2	3.2	2.6	2.4
32 (4.0)	23	-5.0	2.6	2.6	2.6	2.2	2.0
	32	0.0	3.0	3.0	3.0	2.5	2.2
	41	5.0	3.4	3.4	3.4	2.8	2.5
	50	10.0	3.7	3.7	3.7	3.1	2.8
	68	20.0	4.0	4.0	4.0	3.3	3.0
	86	30.0	4.0	4.0	4.0	3.3	3.0
	104	40.0	4.0	4.0	4.0	3.3	3.0
	113	45.0	4.0	4.0	4.0	3.3	3.0
40 (5.0)	23	-5.0	3.3	3.3	3.3	2.7	2.5
	32	0.0	3.7	3.7	3.7	3.1	2.8
	41	5.0	4.2	4.2	4.2	3.5	3.2
	50	10.0	4.7	4.7	4.7	3.8	3.5
	68	20.0	5.0	5.0	5.0	4.1	3.8
	86	30.0	5.0	5.0	5.0	4.1	3.8
	104	40.0	5.0	5.0	5.0	4.1	3.8
	113	45.0	5.0	5.0	5.0	4.1	3.8
50 (6.3)	23	-5.0	4.1	4.1	4.1	3.4	3.1
	32	0.0	4.7	4.7	4.7	3.9	3.5
	41	5.0	5.3	5.3	5.3	4.4	4.0
	50	10.0	5.9	5.9	5.9	4.8	4.4
	68	20.0	6.3	6.3	6.3	5.2	4.7
	86	30.0	6.3	6.3	6.3	5.2	4.7
	104	40.0	6.3	6.3	6.3	5.2	4.7
	113	45.0	6.3	6.3	6.3	5.2	4.7
63 (8.0)	23	-5.0	5.2	5.2	5.2	4.3	3.9
	32	0.0	6.0	6.0	6.0	4.9	4.5
	41	5.0	6.7	6.7	6.7	5.5	5.1
	50	10.0	7.5	7.5	7.5	6.1	5.6
	68	20.0	8.0	8.0	8.0	6.6	6.0
	86	30.0	8.0	8.0	8.0	6.6	6.0
	104	40.0	8.0	8.0	8.0	6.6	6.0
	113	45.0	8.0	8.0	8.0	6.6	6.0
71 (9.0)	23	-5.0	5.9	5.9	5.9	4.8	4.4
	32	0.0	6.7	6.7	6.7	5.5	5.1
	41	5.0	7.6	7.6	7.6	6.2	5.7
	50	10.0	8.4	8.4	8.4	6.9	6.3
	68	20.0	9.0	9.0	9.0	7.4	6.8
	86	30.0	9.0	9.0	9.0	7.4	6.8
	104	40.0	9.0	9.0	9.0	7.4	6.8
	113	45.0	9.0	9.0	9.0	7.4	6.8
80 (10.0)	23	-5.0	6.5	6.5	6.5	5.4	4.9
	32	0.0	7.5	7.5	7.5	6.1	5.6
	41	5.0	8.4	8.4	8.4	6.9	6.3
	50	10.0	9.3	9.3	9.3	7.7	7.0
	68	20.0	10.0	10.0	10.0	8.2	7.5
	86	30.0	10.0	10.0	10.0	8.2	7.5
	104	40.0	10.0	10.0	10.0	8.2	7.5
	113	45.0	10.0	10.0	10.0	8.2	7.5
100 (12.5)	23	-5.0	8.2	8.2	8.2	6.7	6.1
	32	0.0	9.3	9.3	9.3	7.7	7.0
	41	5.0	10.5	10.5	10.5	8.6	7.9
	50	10.0	11.7	11.7	11.7	9.6	8.8
	68	20.0	12.5	12.5	12.5	10.3	9.4
	86	30.0	12.5	12.5	12.5	10.3	9.4
	104	40.0	12.5	12.5	12.5	10.3	9.4
	113	45.0	12.5	12.5	12.5	10.3	9.4

kcal/h=kW x 860 , BTU/h = kW x 3,412

SHC:Sensible Heat Capacity(kW)

Model size (Rated kW)	Water temp.		Indoor air temp.				
			59°FDB 15.0°CDB	66°FDB 19.0°CDB	68°FDB 20.0°CDB	77°FDB 25.0°CDB	81°FDB 27.0°CDB
	°F	°C	SHC	SHC	SHC	SHC	SHC
125 (16.0)	23	-5.0	10.5	10.5	10.5	8.6	7.9
	32	0.0	12.0	12.0	12.0	9.8	9.0
	41	5.0	13.4	13.4	13.4	11.1	10.1
	50	10.0	14.9	14.9	14.9	12.3	11.2
	68	20.0	16.0	16.0	16.0	13.2	12.0
	86	30.0	16.0	16.0	16.0	13.2	12.0
	104	40.0	16.0	16.0	16.0	13.2	12.0
	113	45.0	16.0	16.0	16.0	13.2	12.0
140 (18.0)	23	-5.0	11.8	11.8	11.8	9.7	8.8
	32	0.0	13.4	13.4	13.4	11.1	10.1
	41	5.0	15.1	15.1	15.1	12.4	11.4
	50	10.0	16.8	16.8	16.8	13.8	12.6
	68	20.0	18.0	18.0	18.0	14.8	13.5
	86	30.0	18.0	18.0	18.0	14.8	13.5
	104	40.0	18.0	18.0	18.0	14.8	13.5
	113	45.0	18.0	18.0	18.0	14.8	13.5
200 (25.0)	23	-5.0	16.3	16.3	16.3	13.4	12.3
	32	0.0	18.7	18.7	18.7	15.4	14.0
	41	5.0	21.0	21.0	21.0	17.3	15.8
	50	10.0	23.3	23.3	23.3	19.2	17.5
	68	20.0	25.0	25.0	25.0	20.6	18.8
	86	30.0	25.0	25.0	25.0	20.6	18.8
	104	40.0	25.0	25.0	25.0	20.6	18.8
	113	45.0	25.0	25.0	25.0	20.6	18.8
250 (31.5)	23	-5.0	20.6	20.6	20.6	16.9	15.5
	32	0.0	23.5	23.5	23.5	19.4	17.7
	41	5.0	26.5	26.5	26.5	21.8	19.9
	50	10.0	29.4	29.4	29.4	24.2	22.1
	68	20.0	31.5	31.5	31.5	25.9	23.7
	86	30.0	31.5	31.5	31.5	25.9	23.7
	104	40.0	31.5	31.5	31.5	25.9	23.7
	113	45.0	31.5	31.5	31.5	25.9	23.7

kcal/h=kW x 860 , BTU/h = kW x 3,412

(7) Correction by total indoor

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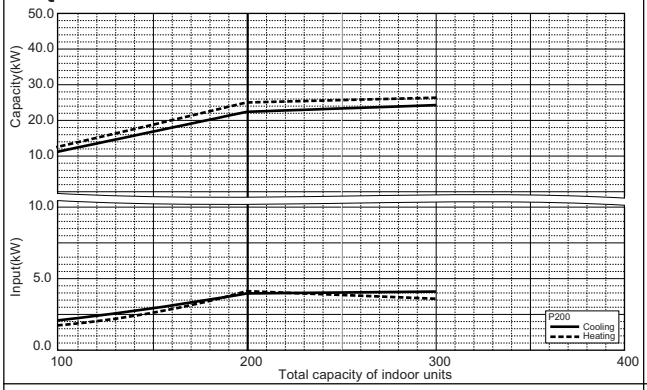

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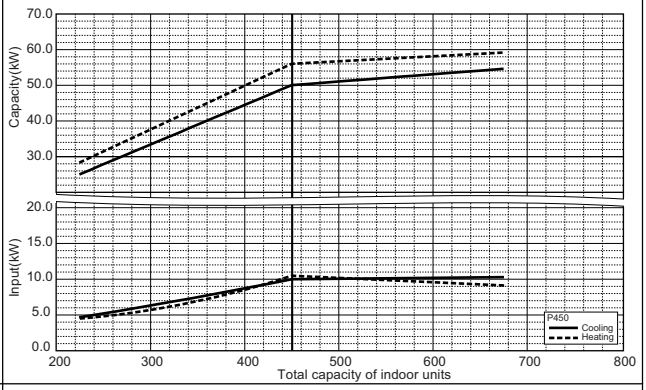

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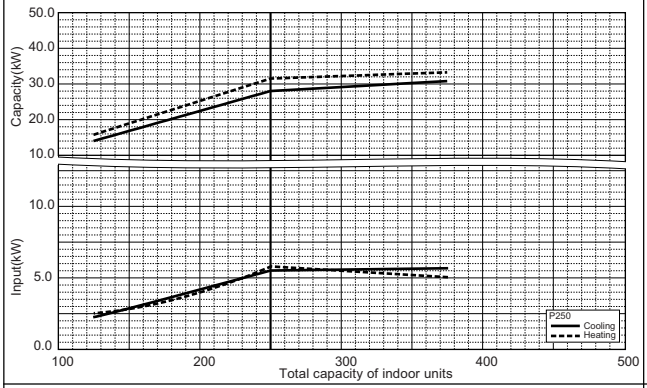

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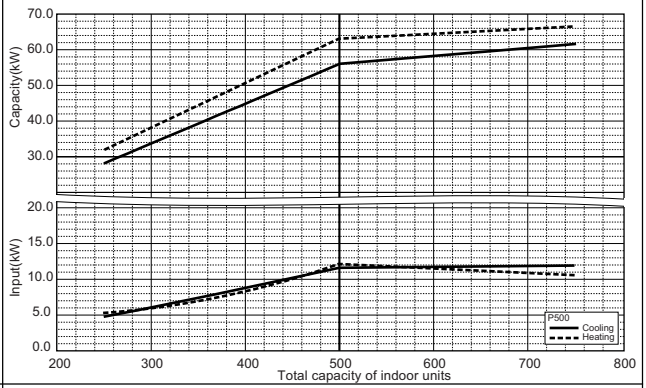

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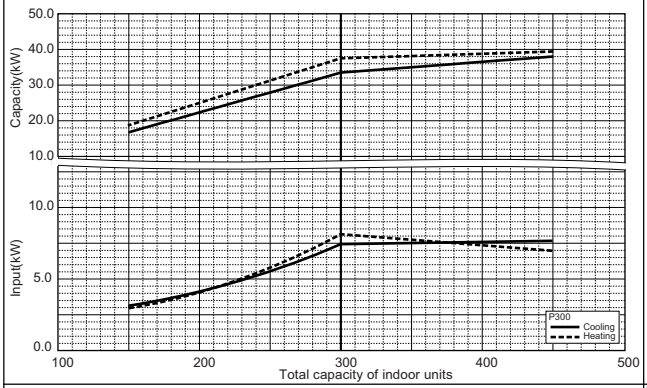

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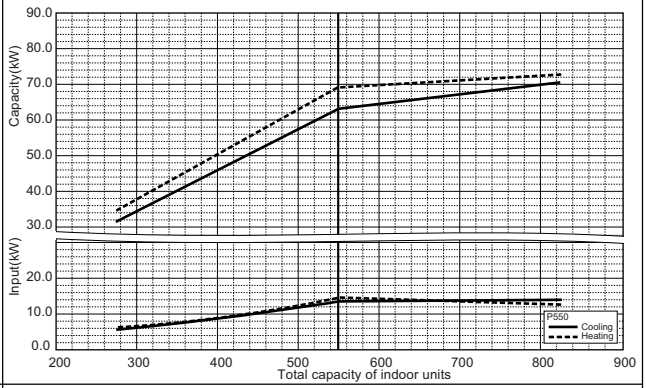

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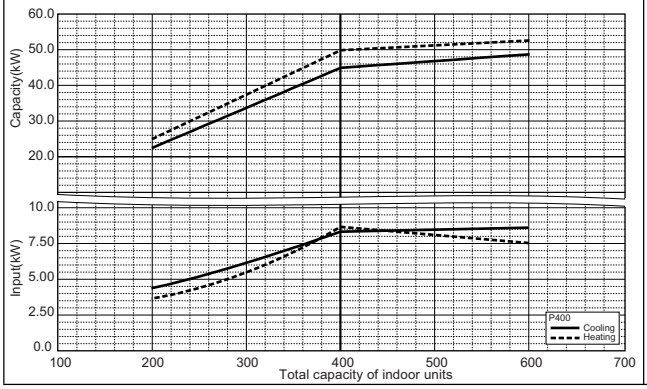

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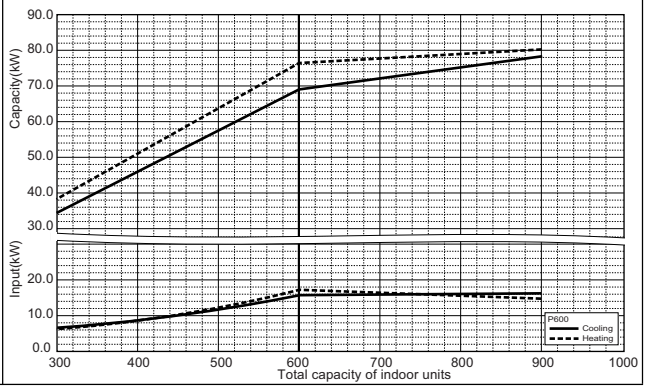
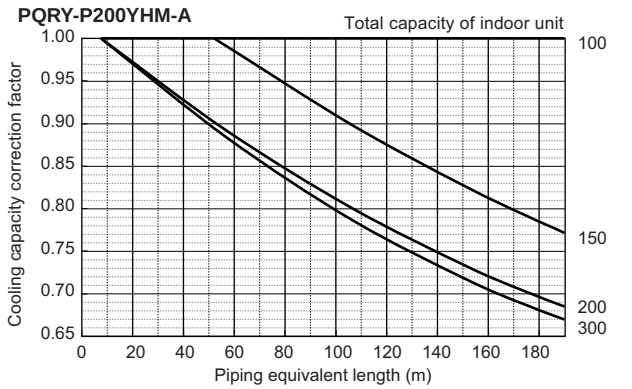
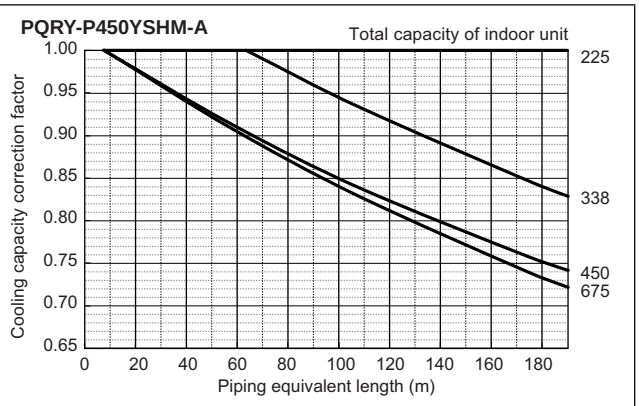
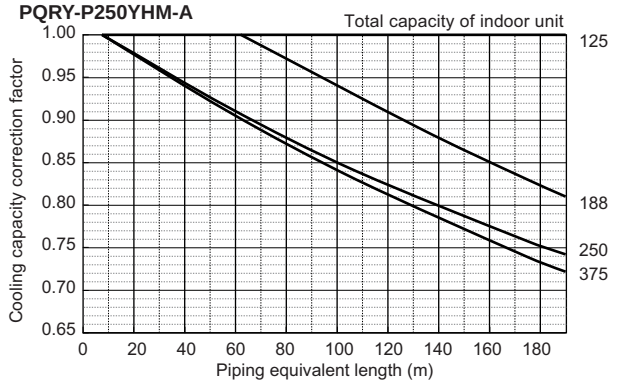


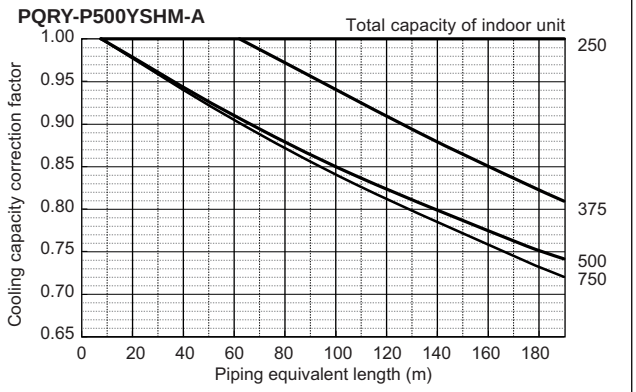
(8) Correction by refrigerant piping length

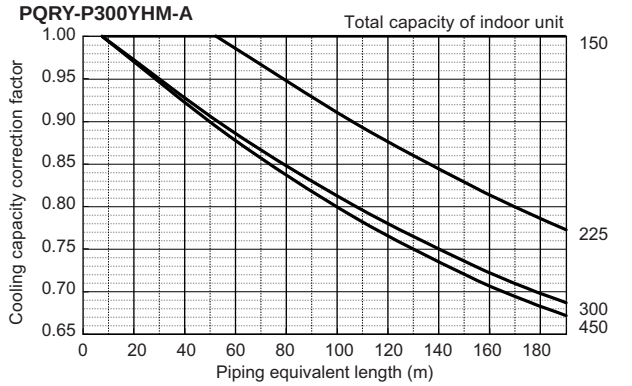
Cooling

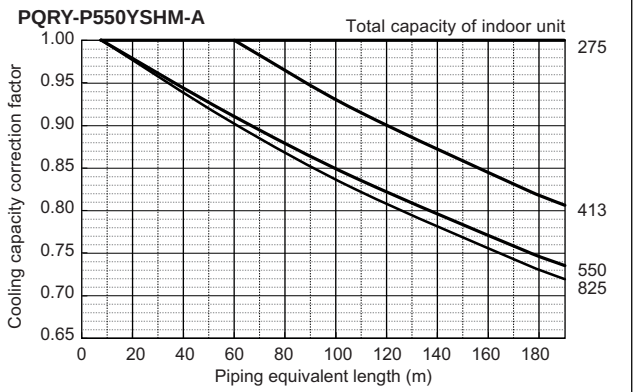


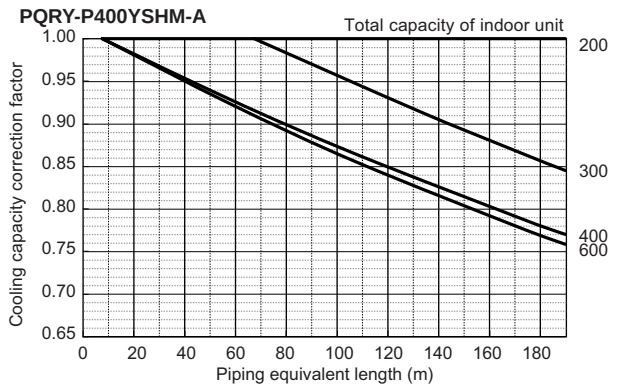


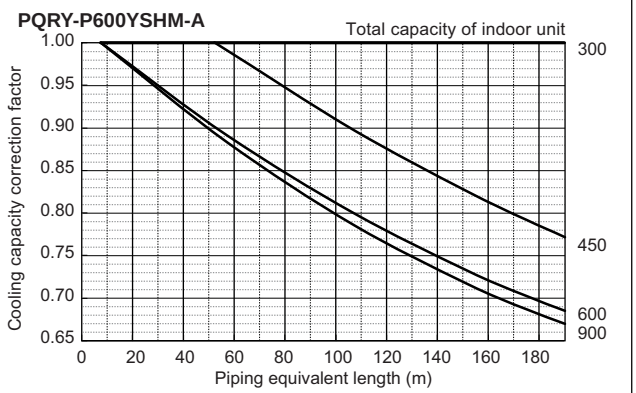












Heating

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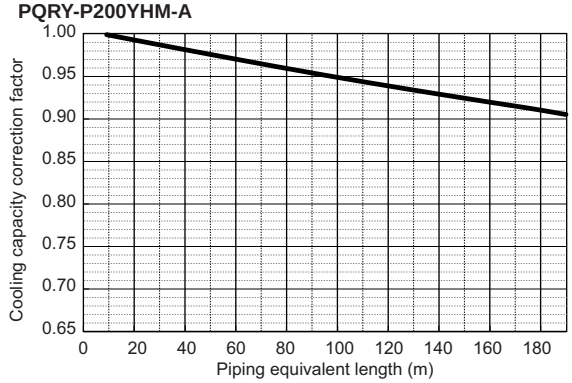
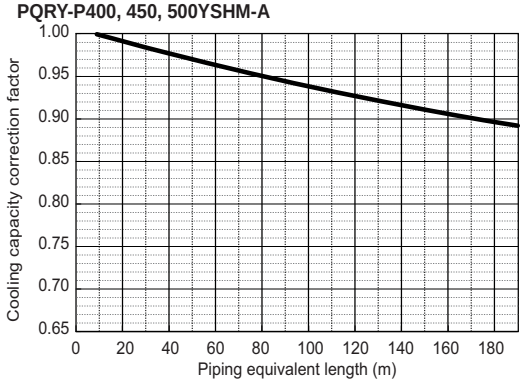
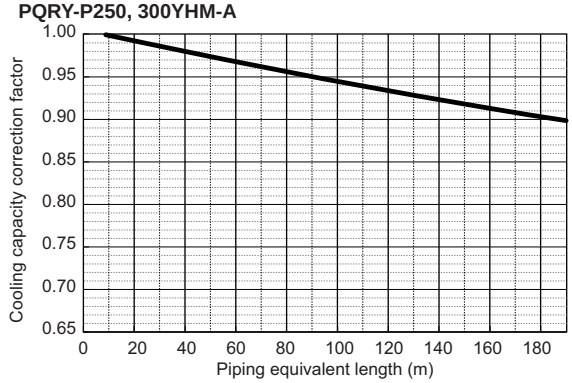


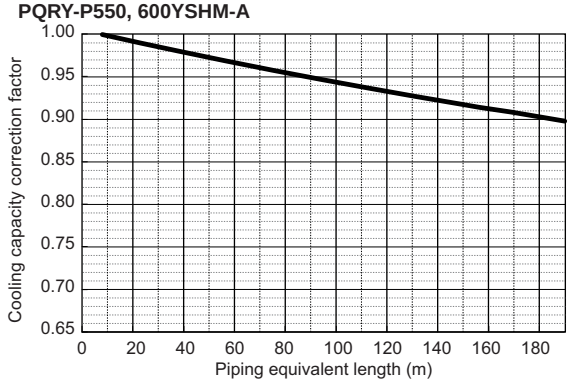
PQRY-P400, 450, 500YSHM-A



PQRY-P250, 300YHM-A



PQRY-P550, 600YSHM-A



(9) Correction by port counts of the BC controller

Indoor unit sizes P200 and P250 must be connected to 2 ports on the BC controller.

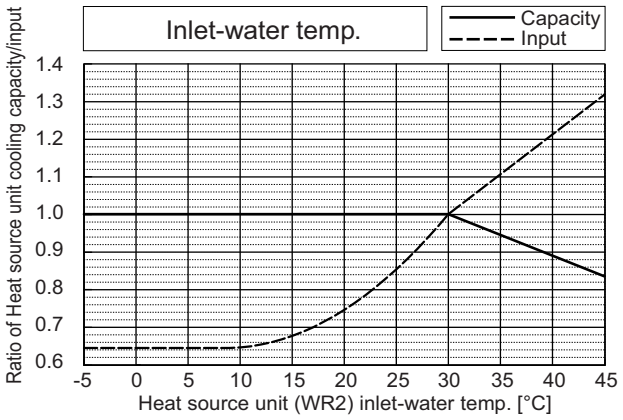
Indoor unit sizes from P100 to P140 should normally be connected to 2 ports on the BC controller (set BC controller DIP-SW 4-6 to its ON position).

In cases whereby indoor unit sizes from P100 to P140 are connected to only 1port on the BC controller (set BC controller DIP-SW 4-6 to its OFF position), the cooling capacity of the indoor unit should be multiplied by a correction factor of **0.97**.

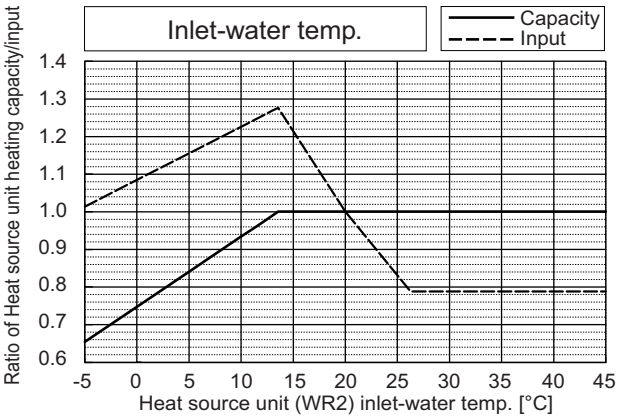
(10) Correction by water temperature (For heat source unit)

(10)-1 Connection with standard CITY MULTI indoor units

Cooling

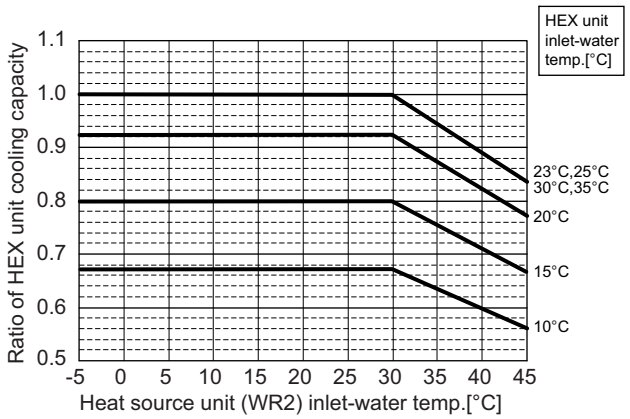


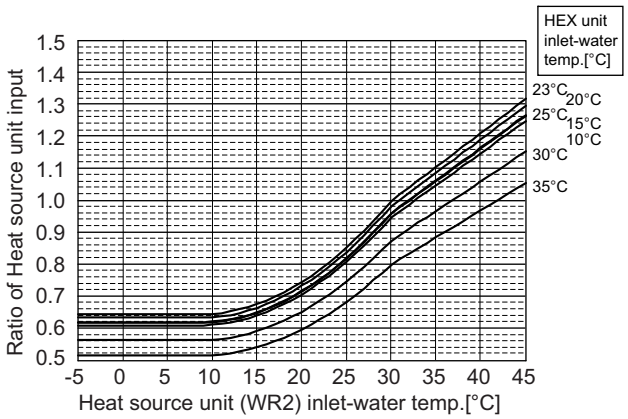
Heating



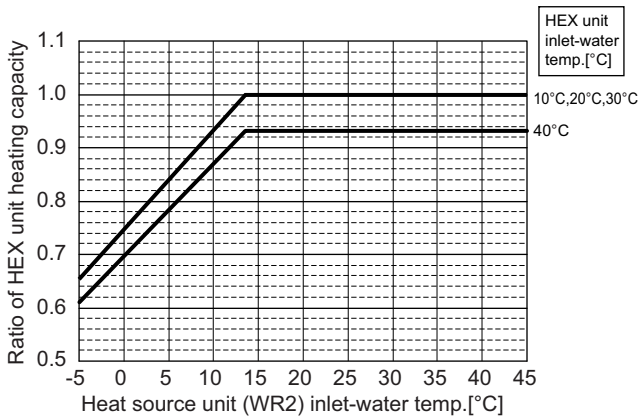
(10)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

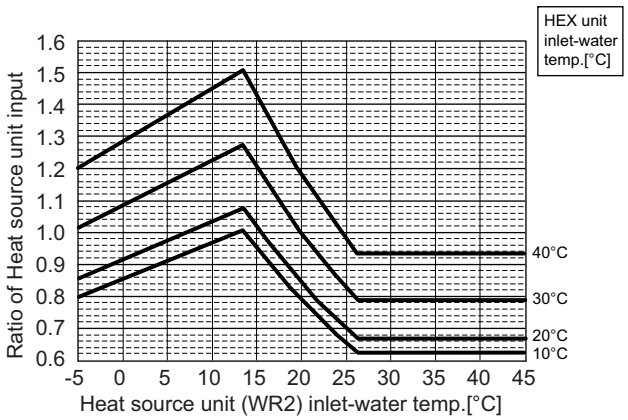
Cooling



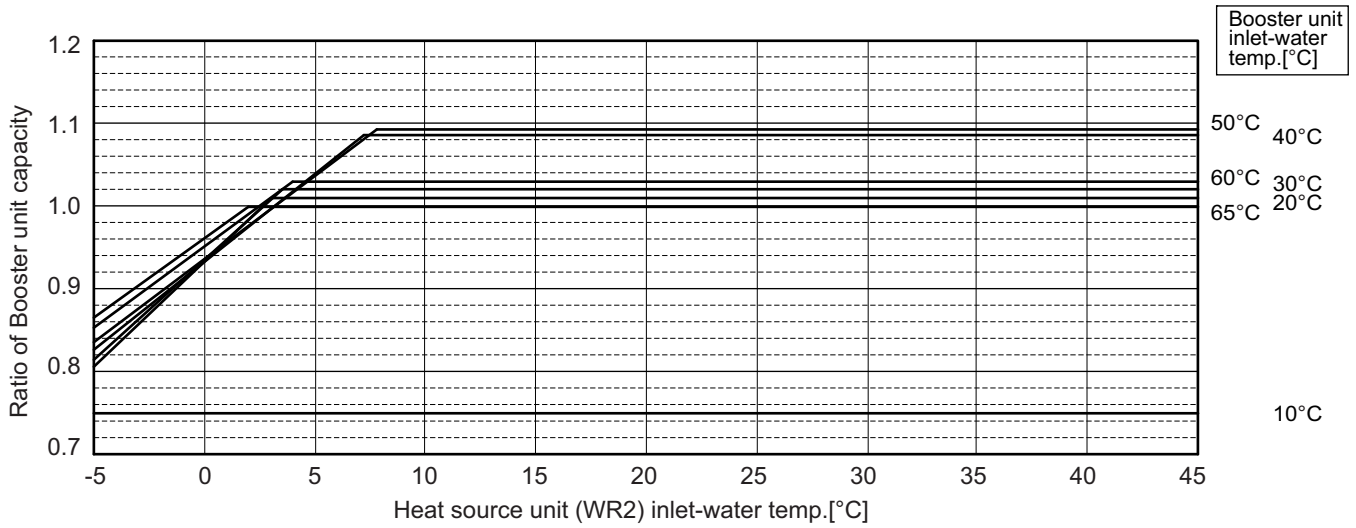


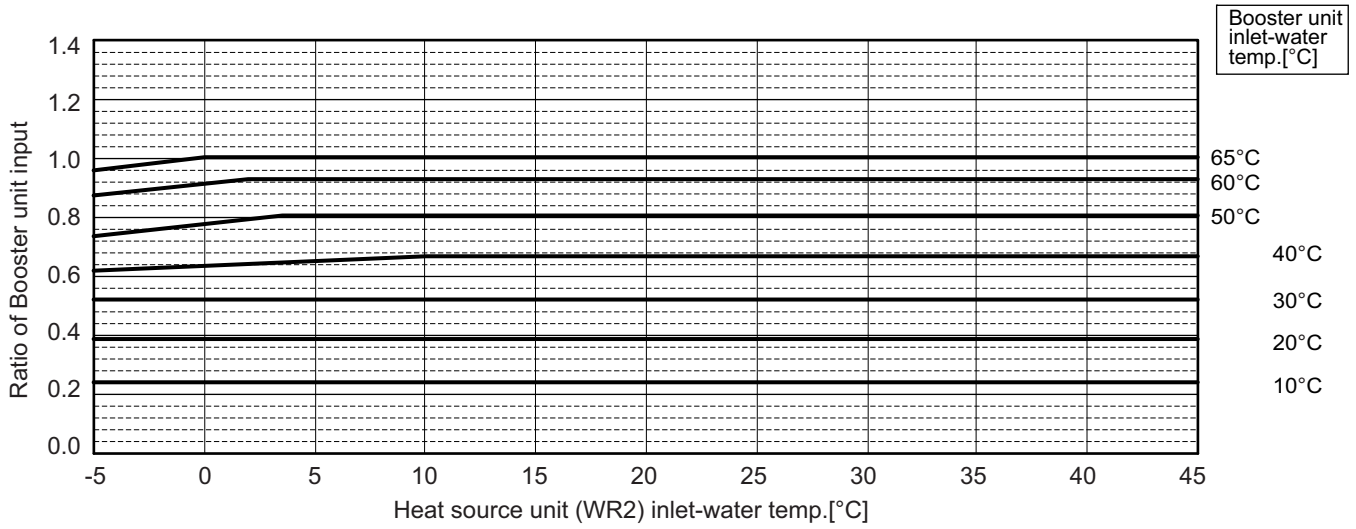
Heating

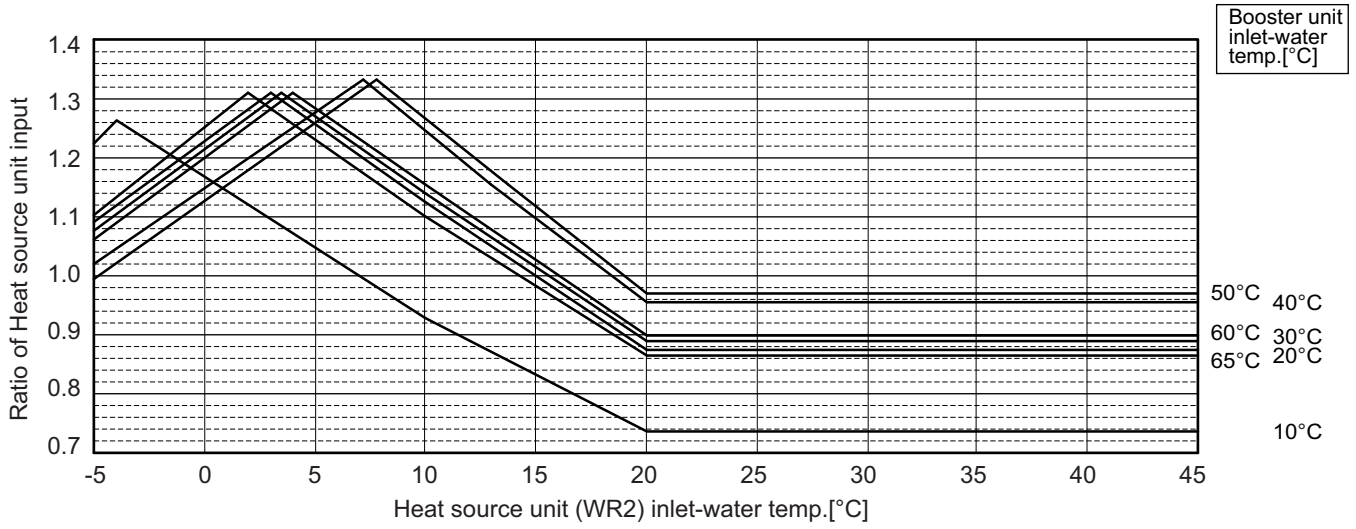




(10)-3 Connection with PWFY-P100VM-E-BU (Booster unit)

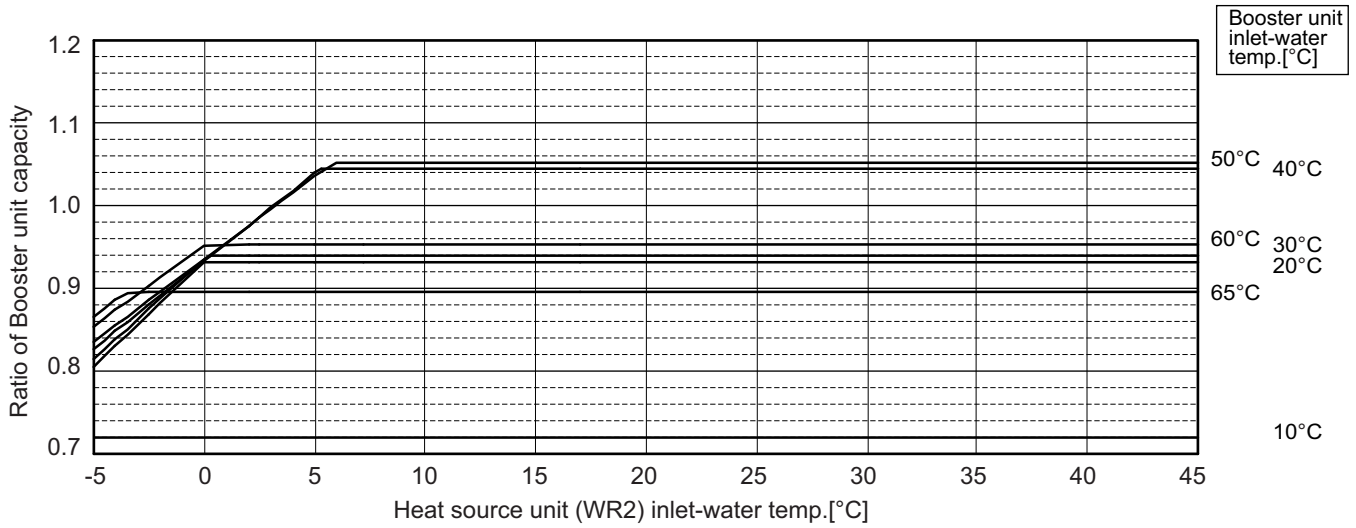


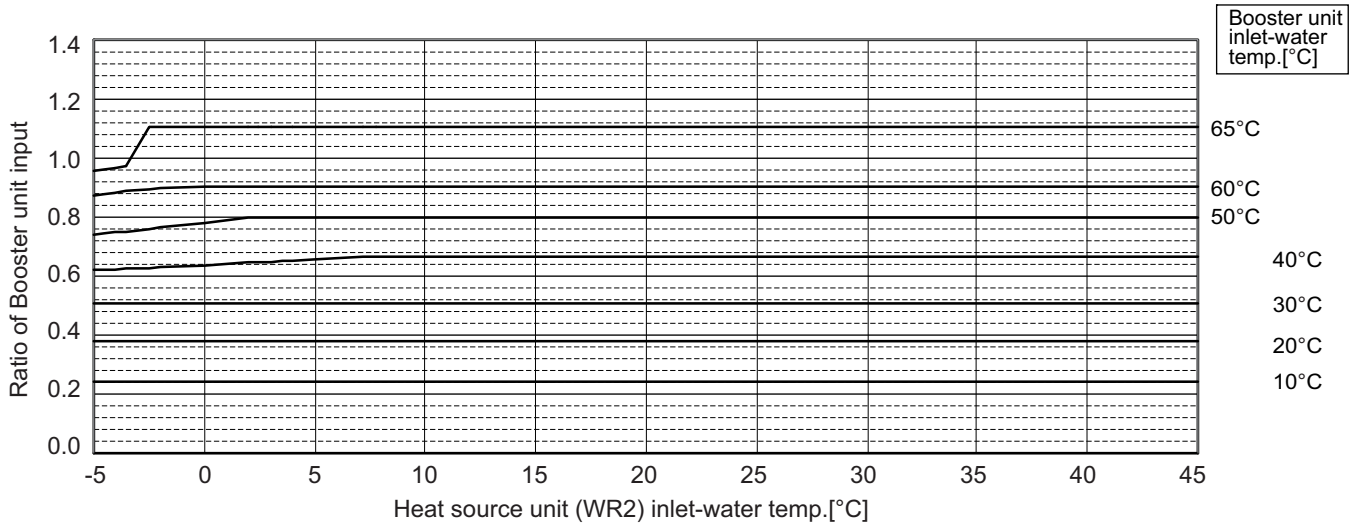


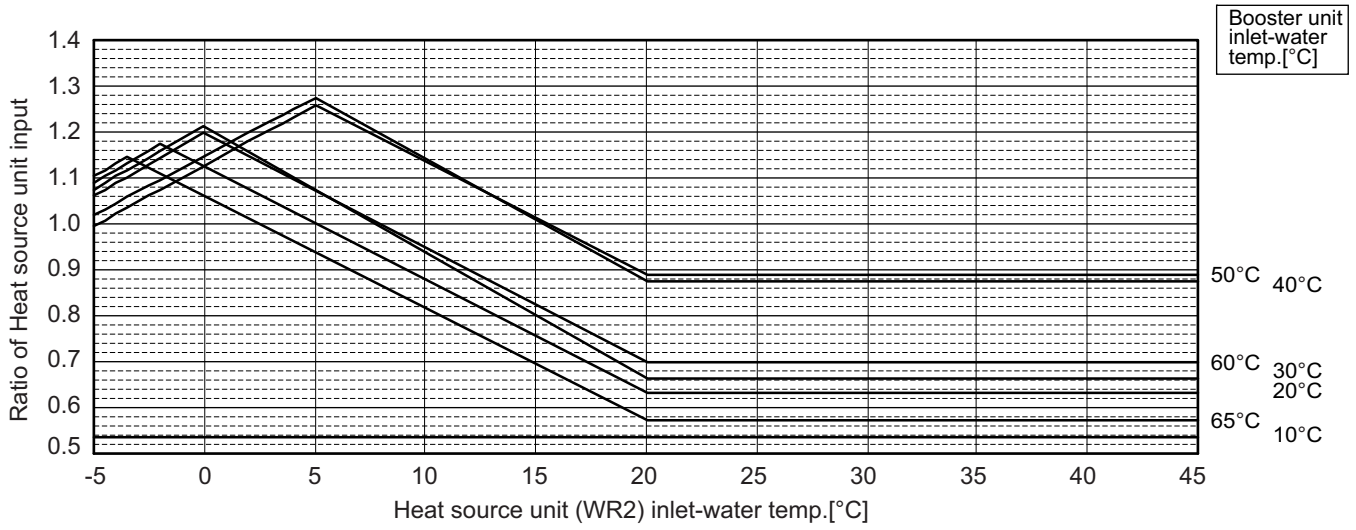


(10)-4 Connection with PWFY-P100VM-E-BU (Booster unit) + WCB Energy saving mode*

***For energy saving mode, set WCB DIP SW 6-5 ON.**



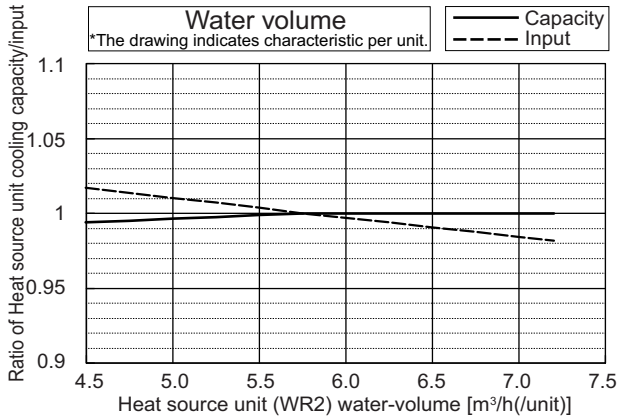




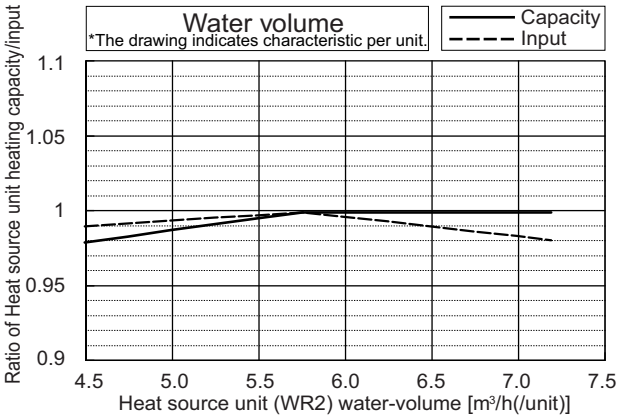
(11) Correction by water flow rate (For heat source unit)

(11)-1 Connection with standard CITY MULTI indoor units

Cooling

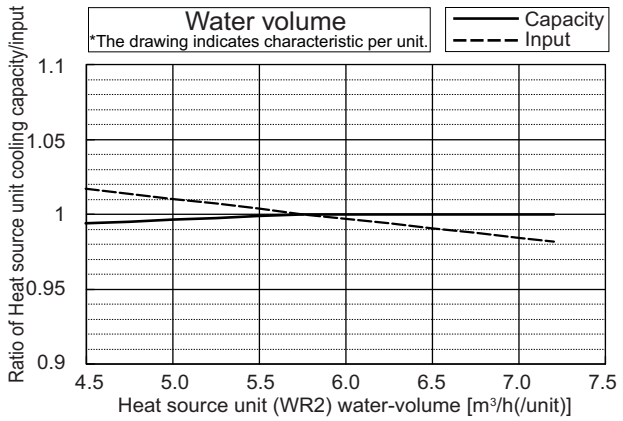


Heating

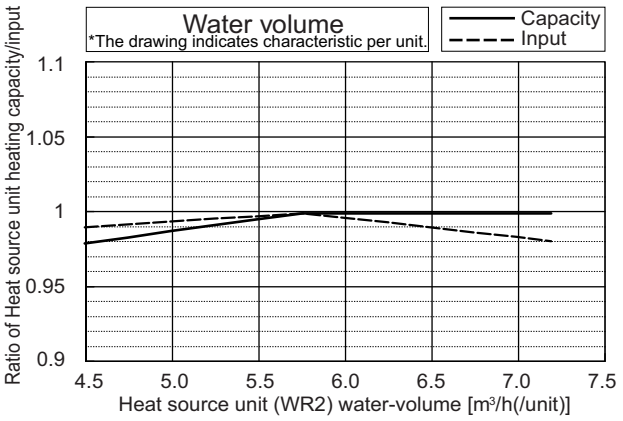


(11)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Cooling

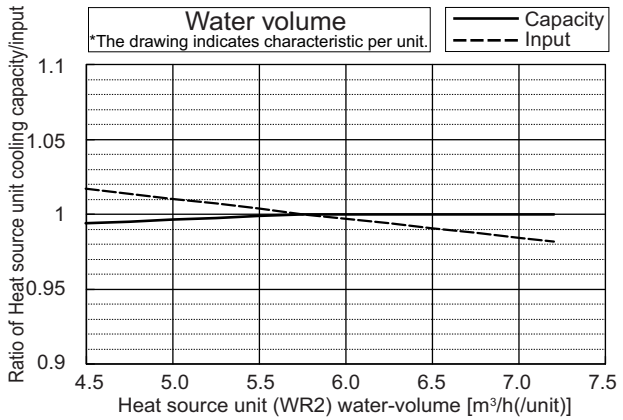


Heating

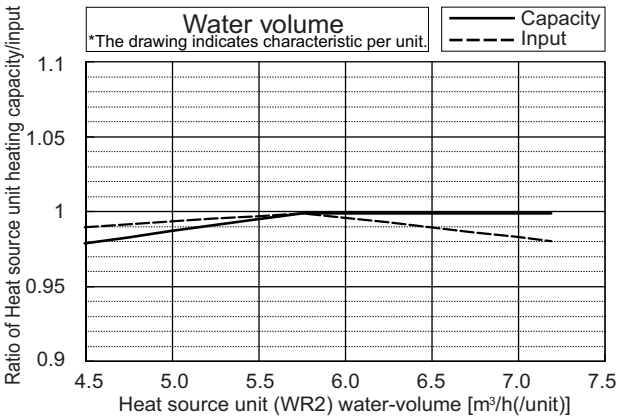


(11)-3 Connection with PWFY-P100VM-E-BU (Booster unit)

Cooling



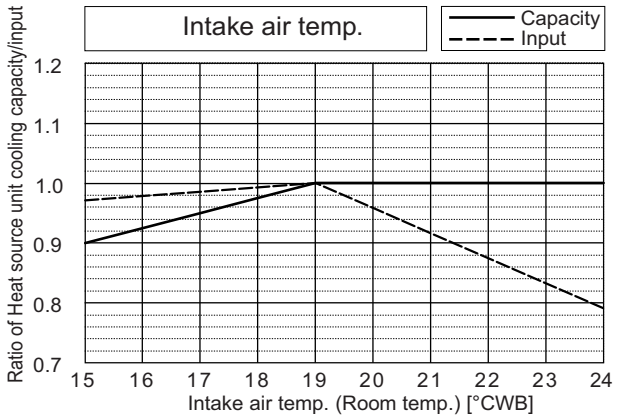
Heating



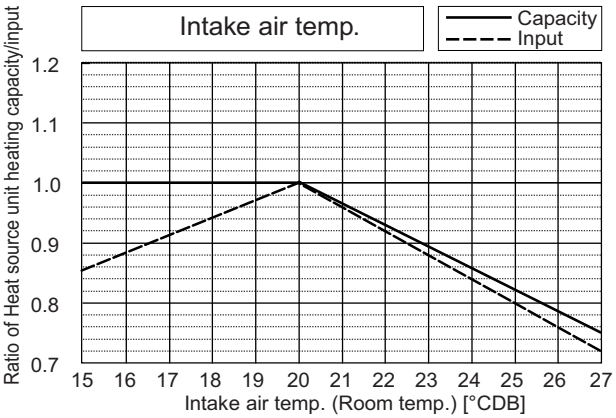
(12) Correction by indoor temperature

(12)-1 Connection with standard CITY MULTI indoor units

Cooling



Heating



(12)-2 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Refer to Page 94.

(12)-3 Connection with PWFY-P100VM-E-BU (Booster unit)

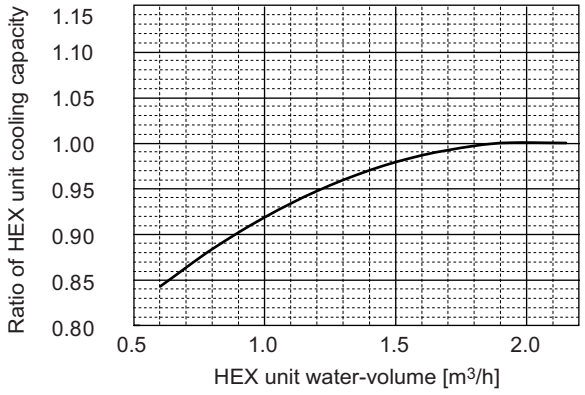
Refer to Page 95 and 96.

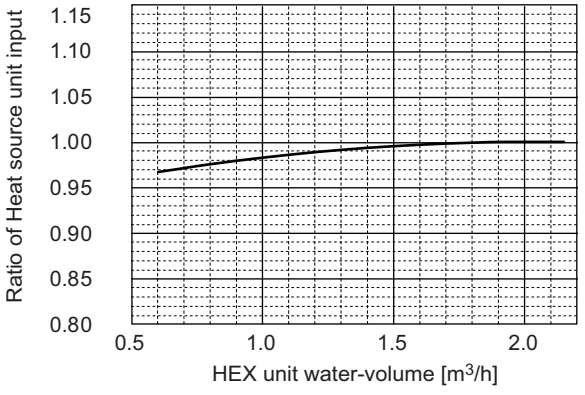
(13) Correction by water flow rate

(For PWFY-P100/200VM-E-AU (HEX unit) and PWFY-P100VM-E-BU (Booster unit)

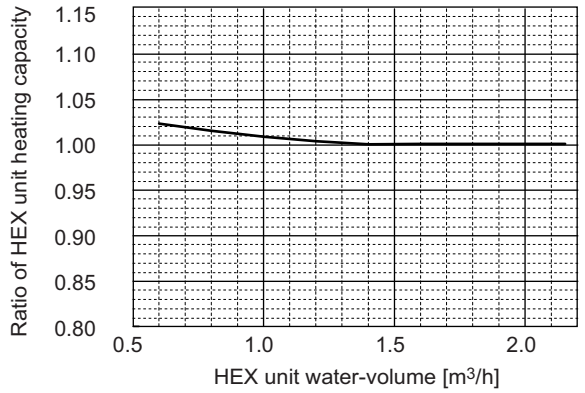
(13)-1 Connection with PWFY-P100VM-E-AU (HEX unit)

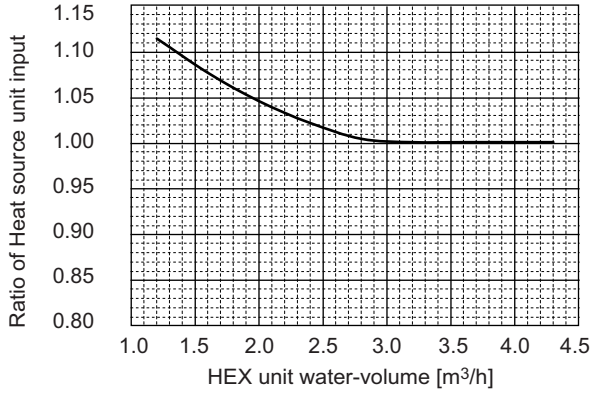
Cooling





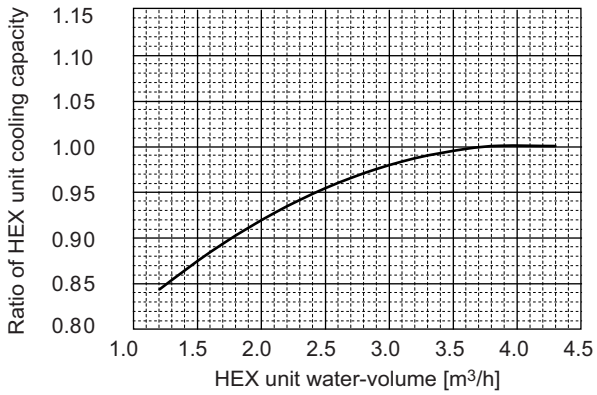
Heating

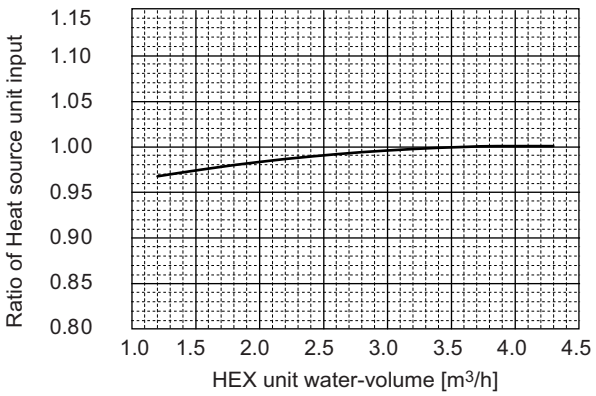




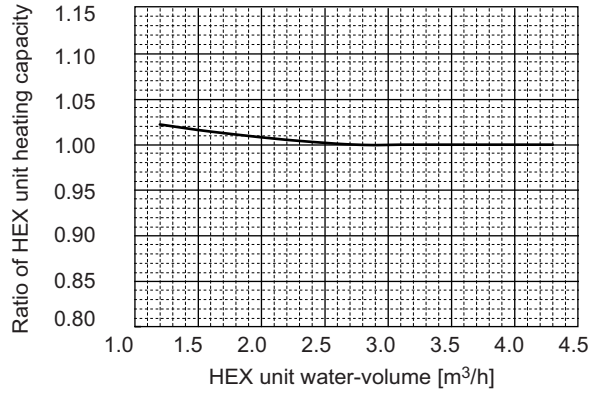
(13)-2 Connection with PWFY-P200VM-E-AU (HEX unit)

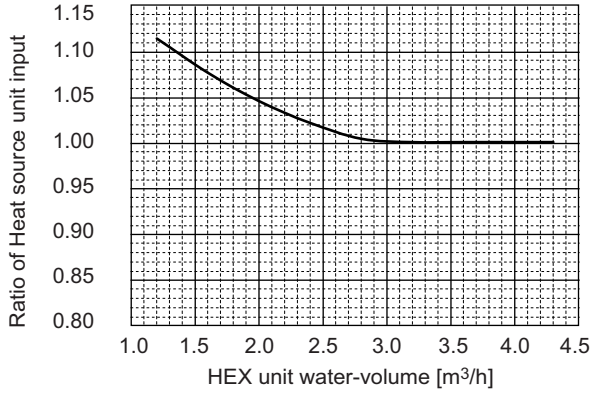
Cooling





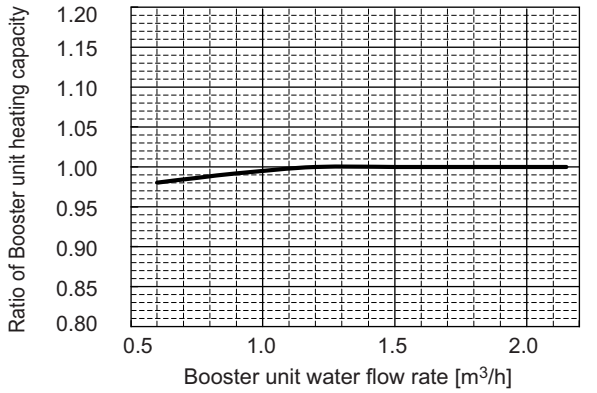
Heating

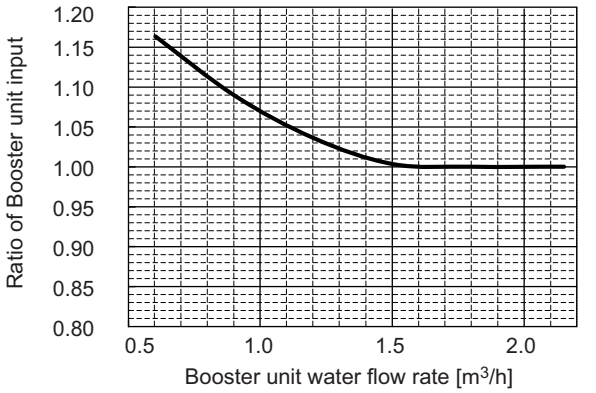


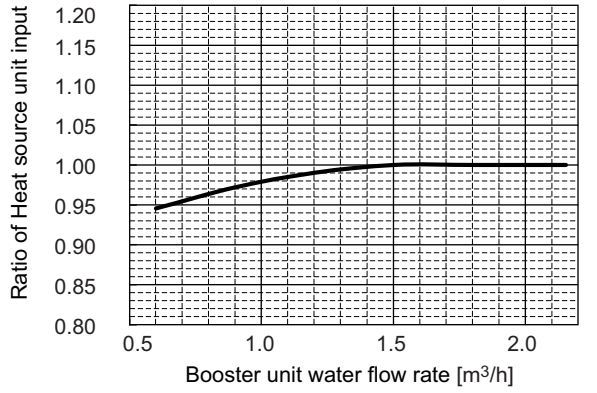


(13)-3 Connection with PWFY-P100VM-E-BU (Booster unit)

Cooling

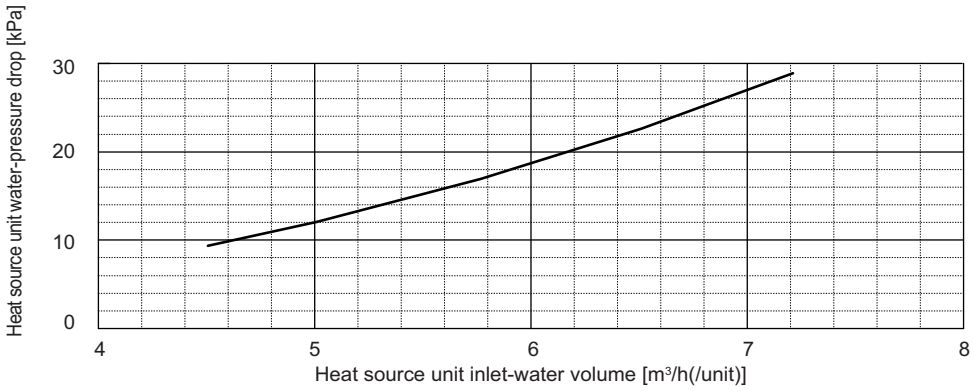






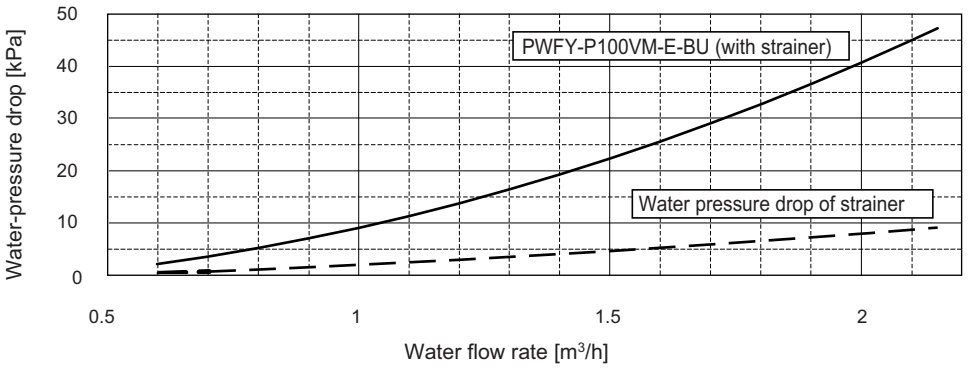
(14) Water pressure drop correction by water volume

(14)-1 Heat source unit correction
(Connection with Standard CITY MULTI indoor units, PWFY-P100/200VM-E-AU, PWFY-P100VM-E-BU)

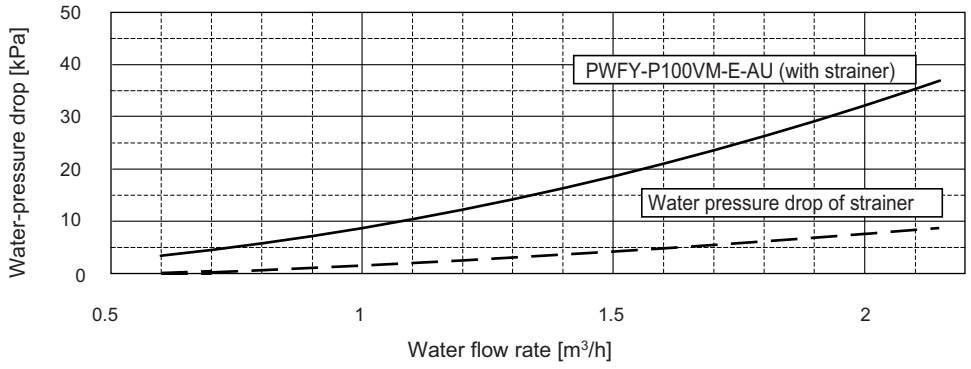


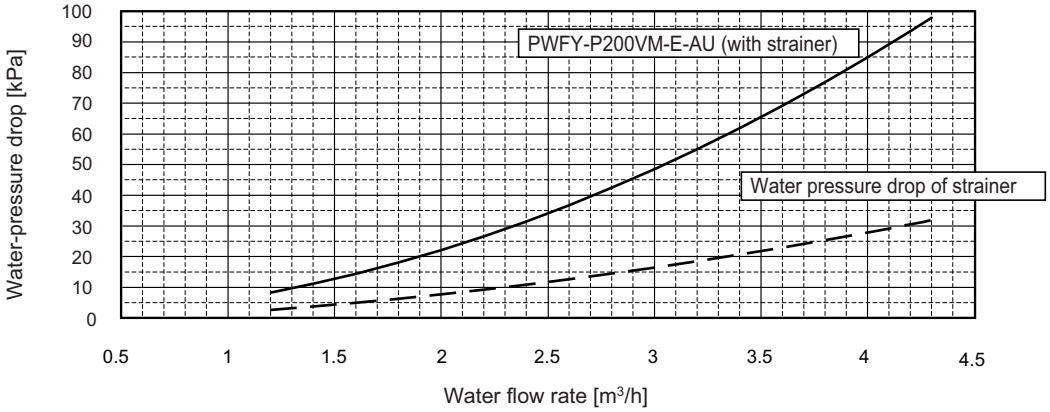
Note: The drawing indicates characteristic per unit. When using brine, refer to “3.Pressure drop correction by brine concentration” at page 3.

(14)-2 Booster unit correction (Connection with PWFY-P100VM-E-BU)

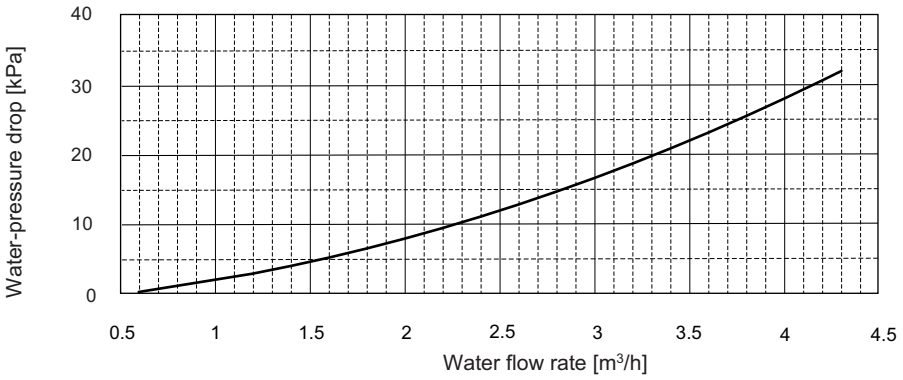


(14)-3 HEX unit correction (Connection with PWFY-P100/200VM-E-AU)





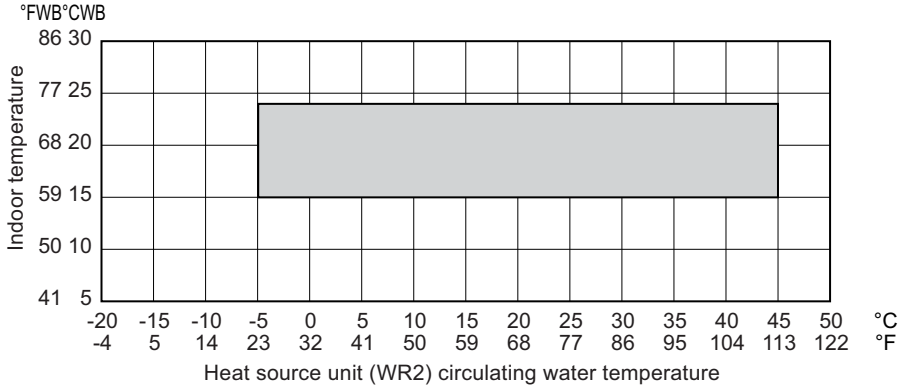
(14)-4 Water pressure drop of strainer only (accessory for PWFY-P100VM-E-BU and PWFY-P100/200VM-E-AU)



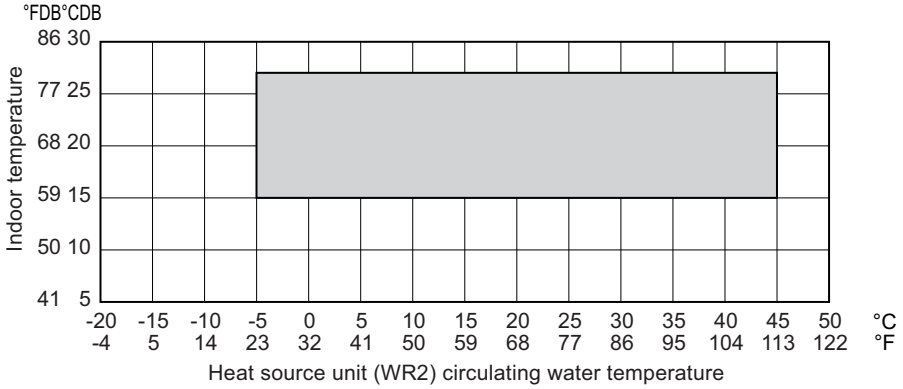
(15) Operation temperature range

(15)-1 Connection with standard CITY MULTI indoor units

Cooling



Heating

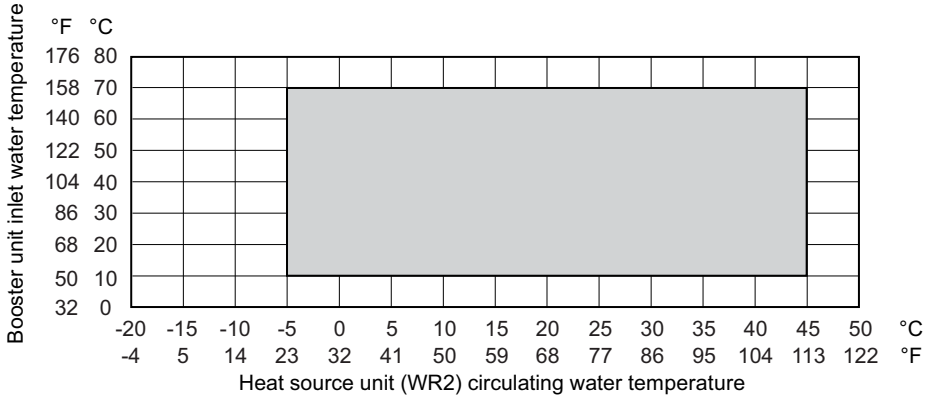


Combination of cooling/heating operation (Cooling main or Heating main)

Water temperature	Indoor temperature	
	Cooling	Heating
10 to 45°C (50 to 113°F)	15 to 24°CWB (59 to 75°FWB)	15 to 27°CDB (59 to 81°FDB)

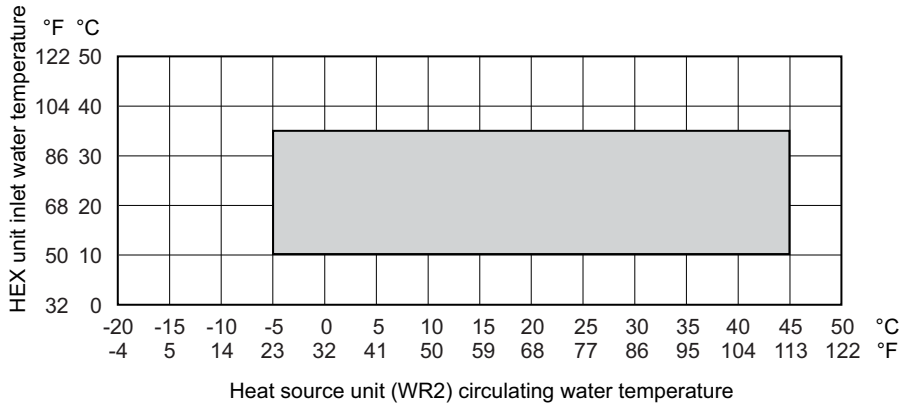
(15)-2 Connection with PWFY-P100VM-E-BU (Booster unit)

Heating

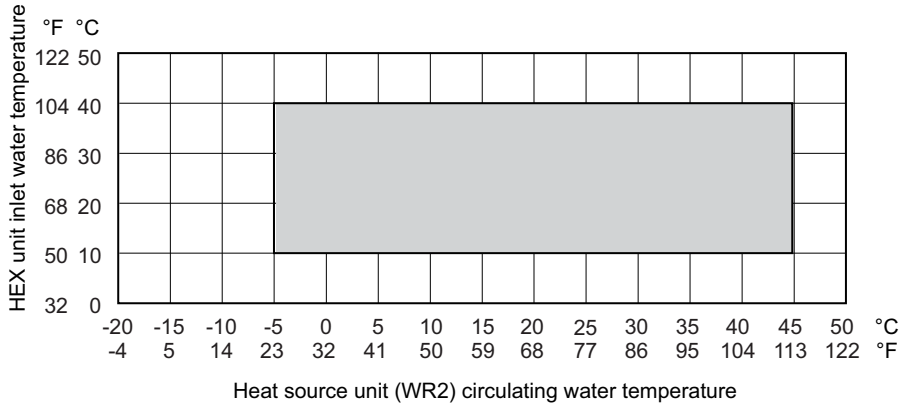


(15)-3 Connection with PWFY-P100/200VM-E-AU (HEX unit)

Cooling



Heating



(16) Piping design

(16)-1 R410A Piping material

Refrigerant pipe for CITY MULTI shall be made of phosphorus deoxidized copper, and has two types.
A. Type-O : Soft copper pipe (annealed copper pipe), can be easily bent with human's hand.
B. Type-1/2H pipe : Hard copper pipe (Straight pipe), being stronger than Type-O pipe of the same radical thickness.

The maximum operation pressure of R410A air conditioner is 4.30 MPa [623psi]. The refrigerant piping should ensure the safety under the maximum operation pressure. MITSUBISHI ELECTRIC recommends pipe size as Table 16-1, or You shall follow the local industrial standard. Pipes of radical thickness 0.7mm or less shall not be used.

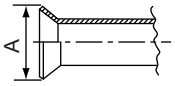
Table 16-1. Copper pipe size and radial thickness for R410A CITY MULTI.

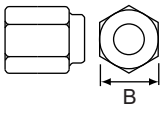
Size (mm)	Size (inch)	Radial thickness (mm)	Radial thickness (mil)	Pipe type
ø6.35	ø1/4"	0.8	[32]	Type-O
ø9.52	ø3/8"	0.8	[32]	Type-O
ø12.7	ø1/2"	0.8	[32]	Type-O
ø15.88	ø5/8"	1.0	[40]	Type-O
ø19.05	ø3/4"	1.2	[48]	Type-O
ø19.05	ø3/4"	1.0	[40]	Type-1/2H or H
ø22.2	ø7/8"	1.0	[40]	Type-1/2H or H
ø25.4	ø1"	1.0	[40]	Type-1/2H or H
ø28.58	ø1-1/8"	1.0	[40]	Type-1/2H or H
ø31.75	ø1-1/4"	1.1	[44]	Type-1/2H or H
ø34.93	ø1-3/8"	1.2	[48]	Type-1/2H or H
ø41.28	ø1-5/8"	1.4	[56]	Type-1/2H or H

* For pipe sized ø19.05 (3/4") for R410A air conditioner, choice of pipe type is up to you.
* The figures in the radial thickness column are based on the Japanese standards and provided only as a reference. Use pipes that meet the local standards.

Flare

Due to the relative higher operation pressure of R410A compared to R22, the flare connection should follow dimensions mentioned below so as to achieve enough the air-tightness.

Flare pipe	Pipe size	A (For R410A) (mm[in.])
	ø6.35 [1/4"]	9.1
	ø9.52 [3/8"]	13.2
	ø12.70 [1/2"]	16.6
	ø15.88 [5/8"]	19.7
	ø19.05 [3/4"]	24.0

Flare nut	Pipe size	B (For R410A) (mm[in.])
	ø6.35 [1/4"]	17.0
	ø9.52 [3/8"]	22.0
	ø12.70 [1/2"]	26.0
	ø15.88 [5/8"]	29.0
	ø19.05 [3/4"]	36.0

(16)-2 PQRY-P200-300YHM Piping

IF 16 ports or less are in use, i.e., if only one BC controller is in use with no sub BC controller (Connection with standard CITY MULTI indoor units, PWFY-P100VM-E-BU, PWFY-P100/200VM-E-AU)

Note1. No Header usable on PQRY system.
Note2. Indoor unit sized P100-P250 should be connected to BC controller via Y shape joint CMY-R160-J1 ;
Note3. Indoor unit sized P100-P250 does NOT share BC controller ports with other Indoor units ;
Note4. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better ;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.
Note5. Set DIP-SW 4-6 to ON of BC controller, in case of connected Indoor unit sized P100-P140 with 2 ports.
Note6. It is also possible to connect Indoor unit sized P100-P140 with 1 port (set DIP-SW 4-6 to OFF).
However, the cooling capacity decreases a little (For details, refer to the chapter HEAT SOURCE UNITS, WR2 SERIES, 3-(10) Correction by port counts of the BC controller).
Note7. Individual indoor units grouped together to connect to the BC controller via one port cannot operate individually in heating and cooling modes at the same time. I.e., they must all function in either heating
Note8. Indoor capactiy is described as its model size. For example, PEFY-P63VMA-E, its capacity is P63.
Note9. Total down-stream Indoor capacity is the summary of the model size of Indoors down-stream.
For example, PEFY-P63VMA-E + PEFY-P32VMA-E : Total Indoor capacity = P63 + P32 = P95.

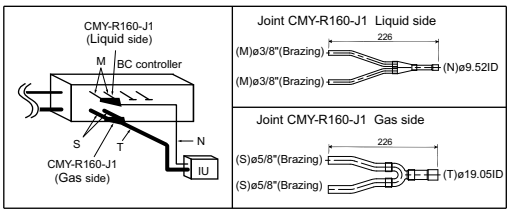


Fig. 16-2AA

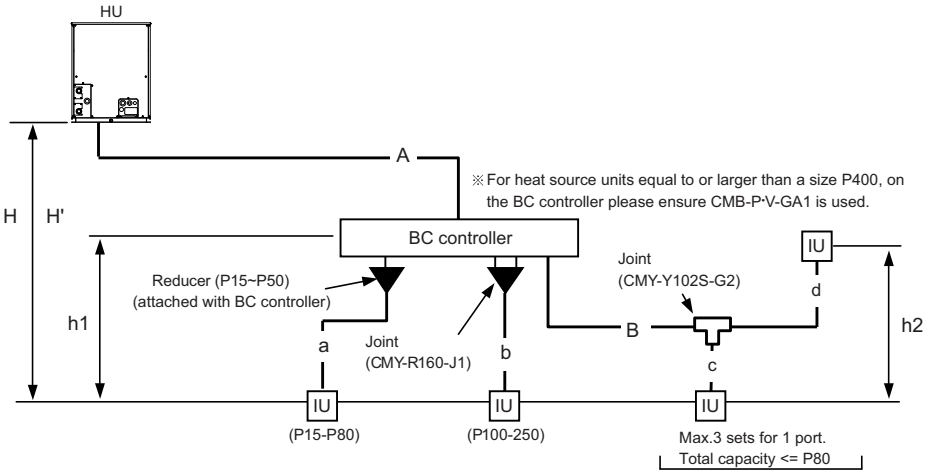


Fig. 16-2A Piping scheme

Table 16-2-1. Piping length limitation **(m [ft.])**

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	A+B+a+b+c+d	*1	-
Farthest IU from HU	A+B+d	165 [541']	190 [623']
Distance between HU and BC	A	110 [360'] *1	110 [360'] *1
Farthest IU from BC controller	B+d	40 [131'] *2*3	40 [131'] *3
Heignt between HU and IU (HU above IU)	H	50 [164']	-
Heignt between HU and IU (HU under IU)	H'	40 [131']	-
Height between IU and BC	h1	15 [49'] (10 [32']) *4	-
Height between IU and IU	h2	15 [49'] (10 [32']) *4	-

Table16-2-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
P200YHM	0.35 [1.15']
P250YHM	0.42 [1.38']
P300YHM	0.42 [1.38']

HU : Heat source Unit ; IU : Indoor Unit ; BC : BC controller
*1. Refer to the section (16)-5.
*2. Details refer to Fig.16-2-1
*3. Farthest Indoor from BC controller "B+d" can exceed 40m till 60m if no Indoor sized P200, P250 connected. Details refer to Fig.16-2-1
*4. Distance of Indoor sized P200, P250 from BC must be less than 10m, if any.

Fig. 16-2-1 Piping length and height between IU and BC controller

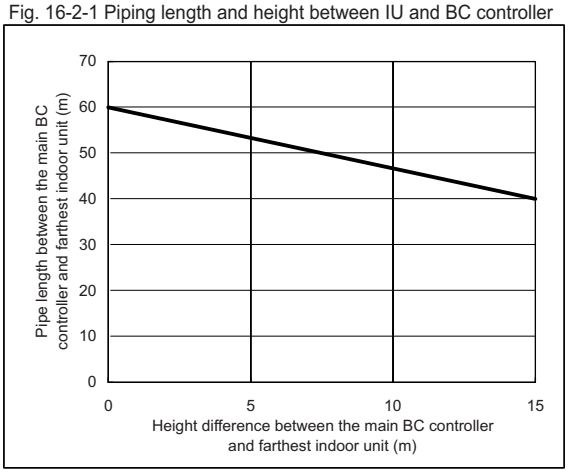


Table16-2-3. Piping "A"size selection rule **(mm [in.])**

Heat source Model	Pipe(High pressure)	Pipe(Low pressure)
P200YHM	ø15.88 [5/8"]	ø19.05 [3/4"]
P250YHM	ø19.05 [3/4"]	ø22.20 [7/8"]
P300YHM	ø19.05 [3/4"]	ø22.20 [7/8"]

Table16-2-4. Piping "B" size seleciton rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P140 or less	ø9.52 [3/8"]	ø15.88 [5/8"]

Table16-2-5. Piping "a", "b", "c", "d" size selection rule **(mm [in.])**

Indoor Unit size	Pipe(Lequid)	Pipe(Gas)
P15 to P50, GUF-50RD(H)	ø6.35 [1/4"]	ø12.70 [1/2"]
P63 to P140, GUF-100RD(H)	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

(16)-3 PQRY-P200-300YHM Piping

IF more than 16 ports are in use, or if there is more than one BC controller in use for one Heat source unit (Connection with standard CITY MULTI indoor units, PWFY-P100VM-E-BU, PWFY-P100/200VM-E-AU)

Note1. No Header usable on PQRY system.
Note2. Indoor unit sized P100-P250 should be connected to BC controller via Y shape joint CMY-R160-J1 ;
Note3. Indoor unit sized P100-P250 does NOT share BC controller ports with other Indoor units ;
Note4. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better ;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.
Note5. Set DIP-SW 4-6 to ON of BC controller, in case of connected Indoor unit sized P100-P140 with 2 ports.
Note6. It is also possible to connect Indoor unit sized P100-P140 with 1 port (set DIP-SW 4-6 to OFF).
However, the cooling capacity decreases a little (For details, refer to the chapter HEAT SOURCE UNITS, WR2 SERIES, 3-(10). Correction by port counts of the BC controller).
Note7. Individual indoor units grouped together to connect to the BC controller via one port cannot operate individually in heating and cooling modes at the same time. I.e., they must all function in either heating or cooling together.
Note8. For sub BC controller CMB-P-V-GB1 the connectable indoor unit capacities may sum to equal that of a P350 unit or less. However, if two sub controllers are used the TOTAL sum of connectable units connected to BOTH sub controllers must also not exceed that of a P350 unit.
For sub BC controller CMB-P1016V-HB1 the connectable indoor unit capacities may sum to equal that or a P350 unit or less. However, if two sub controllers are used the TOTAL sum of connectable units connected to BOTH sub controllers must also not exceed that of a P450 unit.
Note9. Indoor capactiy is described as its model size. For example, PEFY-P63VMA-E, its capacity is P63.
Note10. Total down-stream Indoor capacity is the summary of the model size of Indoors down-stream.
For example, PEFY-P63VMA-E + PEFY-P32VMA-E : Total Indoor capacity = P63 + P32 = P95.

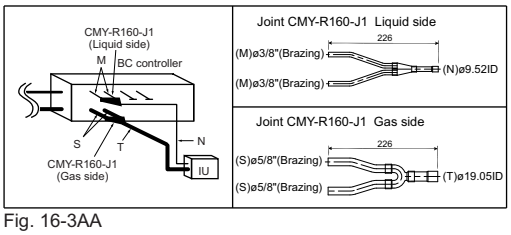


Fig. 16-3AA

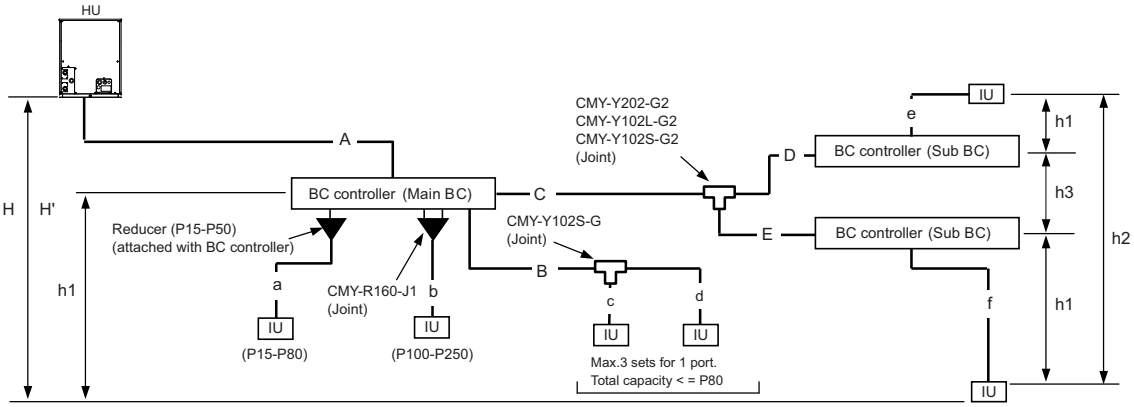


Fig. 16-3A Piping scheme

HU : Heat source unit , IU : Indoor unit

Table 16-3-1. Piping length limitation (m [ft.])

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	A+B+C+D+E+a+b+c+d+e+f	*1	-
Farthest IU from HU	A+C+E+f	165 [541']	190 [623']
Distance between HU and BC	A	110 [360'] *1	110 [360'] *1
Farthest IU from BC controller	B+d or C+D+e or C+E+f	40 [131'] *2*3	40 [131'] *2*3
Heignt between HU and IU (HU above IU)	H	50 [164']	-
Heignt between HU and IU (HU under IU)	H'	40 [131']	-
Height between IU and BC	h1	15 [49'] (10 [32']) *4	-
Height between IU and IU	h2	15 [49'] (10 [32']) *4	-
Heignt between BC(Main or Sub) and BC(Sub)	h3	15 [49'] (10 [32']) *5	-

Table16-3-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
P200YHM	0.35 [1.15']
P250YHM	0.42 [1.38']
P300YHM	0.42 [1.38']

HU : Heat source Unit ; IU : Indoor Unit ; BC : BC controller
*1. Refer to the section (16)-5.
*2. Details refer to Fig.16-3-1
*3. Farthest Indoor from BC controller "B+d or C+D+e or C+E+f " can exceed 40m till 60m if no Indoor sized P200, P250 connected.
Details refer to Fig.16-3-1
*4. Distance of Indoor sized P200, P250 from BC must be less than 10m, if any.
*5. When using 2 Sub BC controllers, max. height "h3" should be considered.

Fig. 16-3-1 Piping length and height between IU and BC controller

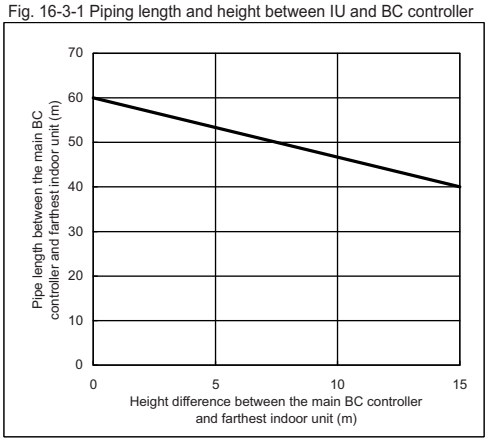


Table16-3-3. Piping "A"size selection rule (mm [in.])

Heat source Model	Pipe(High pressure)	Pipe(Low pressure)
P200YHM	ø15.88 [5/8"]	ø19.05 [3/4"]
P250YHM	ø19.05 [3/4"]	ø22.20 [7/8"]
P300YHM	ø19.05 [3/4"]	ø22.20 [7/8"]

Table16-3-4. Piping "B" size seleciton rule (mm [in.])

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P140 or less	ø9.52 [3/8"]	ø15.88 [5/8"]

Table16-3-5. Piping "C", "D", "E" size selection rule (mm [in.])

Total down-stream Indoor capacity	Pipe(Lequid)	Pipe(HP Gas)	Pipe(LP Gas)
P200 or less	ø9.52 [3/8"]	ø15.88 [5/8"]	ø19.05 [3/4"]
P201 to P300	ø9.52 [3/8"]	ø19.05 [3/4"]	ø22.20 [7/8"]
P301 to P350	ø12.70 [1/2"]	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P351 to P400	ø12.70 [1/2"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P401 to P450	ø15.88 [5/8"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]

HP : High pressure, LP:Low pressure

Table16-3-6. Piping "a", "b", "c", "d", "e", "f" saize selection rule (mm [in.])

Indoor Unit size	Pipe(Lequid)	Pipe(Gas)
P15 to P50, GUF-50RD(H)	ø6.35 [1/4"]	ø12.70 [1/2"]
P63 to P140, GUF-100RD(H)	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

(16)-4 PQRY-P400YHM Piping

IF more than 16 ports are in use, or if there is more than one BC controller in use for two heat source units (Connection with standard CITY MULTI indoor units, PWFY-P100VM-E-BU, PWFY-P100/200VM-E-AU)

Note1. No Header usable on PQRY system.
Note2. Indoor unit sized P100-P250 should be connected to BC controller via Y shape joint CMY-R160-J1 ;
Note3. Indoor unit sized P100-P250 does NOT share BC controller ports with other Indoor units ;
Note4. As bents cause pressure loss on transportation of refrigerant, fewer bents design is better ;
Piping length needs to consider the actual length and equivalent length which bents are counted.
Equivalent piping length (m)=Actual piping length+"M" x Quantity of bent.
Note5. Set DIP-SW 4-6 to ON of BC controller, in case of connected Indoor unit sized P100-P140 with 2 ports.
Note6. It is also possible to connect Indoor unit sized P100-P140 with 1 port (set DIP-SW 4-6 to OFF).
However, the cooling capacity decreases a little (For details, refer to the chapter HEAT SOURCE UNITS, WR2 SERIES, 3-(10). Correction by port counts of the BC controller).
Note7. Individual indoor units grouped together to connect to the BC controller via one port cannot operate individually in heating and cooling modes at the same time. I.e., they must all function in either heating or cooling together.
Note8. For sub BC controller CMB-P-V-GB1 the connectable indoor unit capacities may sum to equal that of a P350 unit or less. However, if two sub controllers are used the TOTAL sum of connectable units connected to BOTH sub controllers must also not exceed that of a P350 unit.
For sub BC controller CMB-P1016V-HB1 the connectable indoor unit capacities may sum to equal that or a P350 unit or less. However, if two sub controllers are used the TOTAL sum of connectable units connected to BOTH sub controllers must also not exceed that of a P450 unit.
Note9. Indoor capactiy is described as its model size. For example, PEFY-P63VMA-E, its capacity is P63.
Note10. Total down-stream Indoor capacity is the summary of the model size of Indoors down-stream.
For example, PEFY-P63VMA-E + PEFY-P32VMA-E : Total Indoor capacity = P63 + P32 = P95.

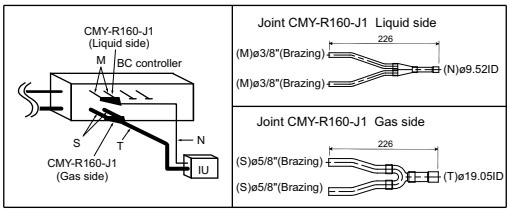


Fig. 16-4AA

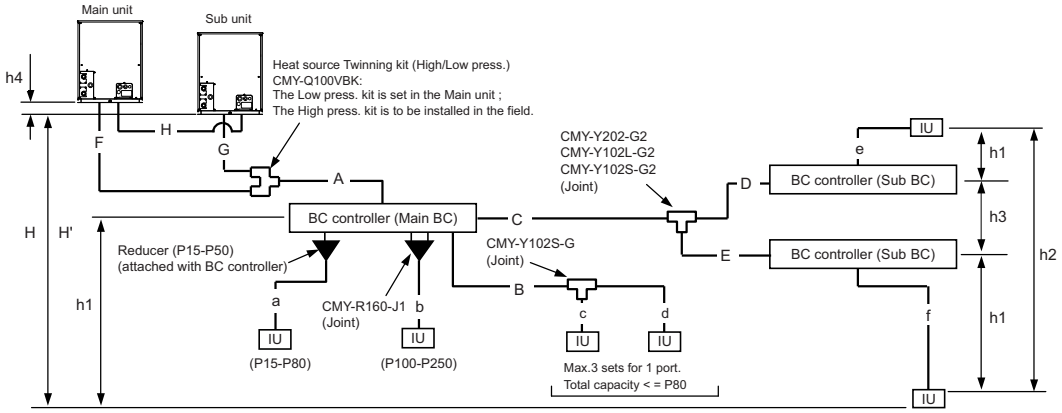


Fig. 16-4A Piping scheme

IU : Indoor unit

Table16-4-1. Piping length limitation **(m [ft.])**

Item	Piping in the figure	Max. length	Max. equivalent length
Total piping length	F+G+H+A+B+C+D+E+a+b+c+d+e+f	*1	-
Farthest IU from HU	F(G)+A+C+E+f	165 [541']	190 [623']
Distance between HU and BC	F(G)+A	110 [360'] *1	110 [360'] *1
Farthest IU from BC controller	B+d or C+D+e or C+E+f	40 [131'] *2*3	40 [131'] *2*3
Heignt between HU and IU (HU above IU)	H	50 [164']	-
Heignt between HU and IU (HU under IU)	H'	40 [131']	-
Height between IU and BC	h1	15 [49'] (10 [32']) *4	-
Height between IU and IU	h2	15 [49'] (10 [32']) *4	-
Heignt between BC(Main or Sub) and BC(Sub)	h3	15 [49'] (10 [32']) *5	-
Distance between Main unit and Sub unit	F+G or H	5 [16']	-
Height between Main unit and Sub unit	h4	0.1 [0.3']	-

Table16-4-2. Bent equivalent length "M"

Heat source Model	M (m/bent [ft./bent])
P400YSHM	0.50 [1.64']
P450YSHM	0.50 [1.64']
P500YSHM	0.50 [1.64']
P550YSHM	0.50 [1.64']
P600YSHM	0.50 [1.64']

HU : Heat source Unit ; IU : Indoor Unit ; BC : BC controller
*1. Refer to the section (16)-5.
*2. Details refer to Fig.16-4-1
*3. Farthest Indoor from BC controller "B+d or C+D+e or C+E+f " can exceed 40m till 60m if no Indoor sized P200, P250 connected. Details refer to Fig.16-4-1
*4. Distance of Indoor sized P200, P250 from BC must be less than 10m, if any.
*5. When using 2 Sub BC controllers, max. height "h3" should be considered.

Fig. 16-4-1 Piping length and height between IU and BC controller

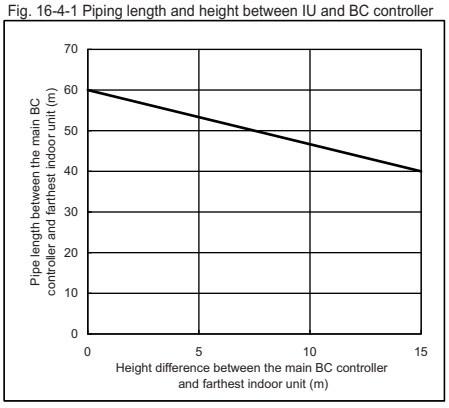


Table16-4-3. Piping "A"size selection rule **(mm [in.])**

Heat source Model	Pipe(High pressure)	Pipe(Low pressure)
P400YSHM	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P450YSHM	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P500YSHM	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P550YSHM	ø28.58 [1-1/8"]	ø28.58 [1-1/8"]
P600YSHM	ø28.58 [1-1/8"]	ø28.58 [1-1/8"]

Table16-4-4. Piping "B" size seleciton rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Liquid)	Pipe(Gas)
P140 or less	ø9.52 [3/8"]	ø15.88 [5/8"]

Table16-4-5. Piping "C", "D", "E" size selection rule **(mm [in.])**

Total down-stream Indoor capacity	Pipe(Lequid)	Pipe(HP Gas)	Pipe(LP Gas)
P200 or less	ø9.52 [3/8"]	ø15.88 [5/8"]	ø19.05 [3/4"]
P201 to P300	ø9.52 [3/8"]	ø19.05 [3/4"]	ø22.20 [7/8"]
P301 to P350	ø12.70 [1/2"]	ø19.05 [3/4"]	ø28.58 [1-1/8"]
P351 to P400	ø12.70 [1/2"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]
P401 to P450	ø15.88 [5/8"]	ø22.20 [7/8"]	ø28.58 [1-1/8"]

HP : High pressure, LP:Low pressure

Table16-4-6. Piping "F", "G", "H" size selection rule **(mm [in.])**

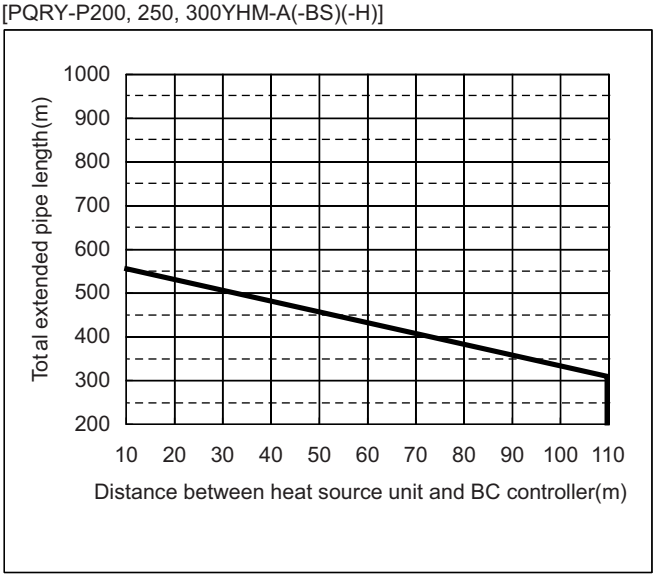
Heat source Model	Pipe(High pressure)	Pipe(Low pressure)
P200YHM	ø15.88 [5/8"]	ø19.05 [3/4"]
P250YHM	ø19.05 [3/4"]	ø22.20 [7/8"]
P300YHM	ø19.05 [3/4"]	ø22.20 [7/8"]

Table16-4-7. Piping "a", "b", "c", "d", "e", "f" size selection rule **(mm [in.])**

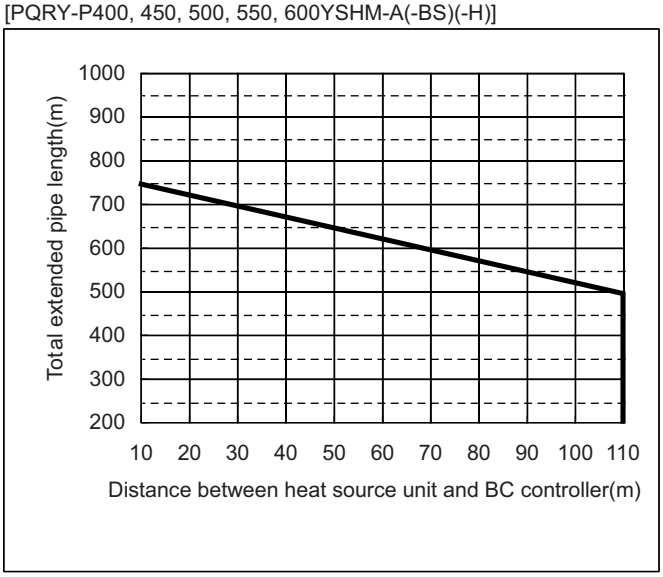
Indoor Unit size	Pipe(Lequid)	Pipe(Gas)
P15 to P50	ø6.35 [1/4"]	ø12.70 [1/2"]
P63 to P140	ø9.52 [3/8"]	ø15.88 [5/8"]
P200	ø9.52 [3/8"]	ø19.05 [3/4"]
P250	ø9.52 [3/8"]	ø22.20 [7/8"]

(16)-5 Total piping length restrictions

[PQRY-P200, 250, 300YHM-A(-BS)(-H)]

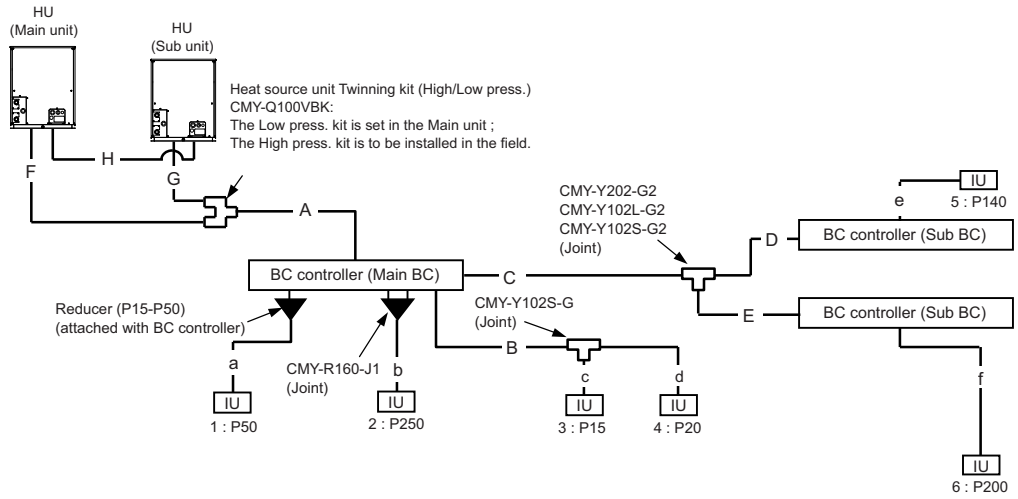


[PQRY-P400, 450, 500, 550, 600YSHM-A(-BS)(-H)]



(16)-6 Refrigerant charging calculation

Sample connection (with 3 BC controller and 6 indoor units)



■Amount of additional refrigerant to be charged

Refrigerant for extended pipes (field piping) is not factory-charged to the outdoor unit. Add an appropriate amount of refrigerant for each pipes on site.
Record the size of each high pressure pipe and liquid pipe, and the amout of refrigerant that was charged on the outdoor unit for future reference.

■Calculating the amount of additional refrigerant to be charged

The amount of refrigerant to be charged is calculated with the size of the on-site-installed hige pressure pipes and liquid pipes, and their length.
Calculate the amount of refrigerant to be charged according to the formula below.
Round up the calculation result to the nearest 0.1kg. (i.e., 16.08 kg = 16.1 kg)

<Amount of additional refrigerant to be charged>

■Calculating the amount of additional refrigerant to be charged

Additional refrigerant charge	=	High pressure pipe size Total length of ø 28.58 x 0.36	+	High pressure pipe size Total length of ø 22.20 x 0.23	+	High pressure pipe size Total length of ø 19.05 x 0.16	+	High pressure pipe size Total length of ø 15.88 x 0.11
(kg)		(m) x 0.36(kg/m)		(m) x 0.23(kg/m)		(m) x 0.16(kg/m)		(m) x 0.11(kg/m)

+	Liquid pipe size Total length of ø 15.88 x 0.2	+	Liquid pipe size Total length of ø 12.7 x 0.12	+	Liquid pipe size Total length of ø 9.52 x 0.06	+	Liquid pipe size Total length of ø 6.35 x 0.024
	(m) x 0.20(kg/m)		(m) x 0.12(kg/m)		(m) x 0.06(kg/m)		(m) x 0.024(kg/m)

+	BC controller (Standard / Main)
	3.0 kg

+	BC controller (Sub) Total units	Charged amount
	1 unit	1.0 kg
	2 units	2.0 kg

+	Total capacity of connected indoor units	Charged amount
	-80	2.0 kg
	81 - 160	2.5 kg
	161 - 330	3.0 kg
	331 - 390	3.5 kg
	391 - 480	4.5 kg
	481 - 630	5.0 kg
	631 - 710	6.0 kg
	711 - 800	8.0 kg
	801 - 890	9.0 kg
	891 -	10.0 kg

■Amount of factory charged refrigerant

Outdoor unit Model	Charged amount
P200	5.0 kg
P250	
P300	

■Sample calculation

A :	ø28.58	40m
B :	ø9.52	10m
C :	ø12.70	10m
D :	ø9.52	5m
E :	ø9.52	5m
F :	ø22.20	2m
G :	ø22.20	1m

Indoor			
1 : P50	a :	ø6.35	5m
2 : P250	b :	ø9.52	3m
3 : P15	c :	ø6.35	2m
4 : P20	d :	ø6.35	3m
5 : P140	e :	ø9.52	3m
6 : P200	f :	ø9.52	10m

Total length for each pipe size : ø28.58 A = 40m
ø22.20 F+G = 2+1 = 3m
ø12.70 C = 10m
ø9.52 B+D+E+b+e+f = 36m
ø6.35 a+c+d =10m

Therefore, additional refrigerant charge = 40x0.36 + 3x0.23 + 10x0.12 + 36x0.06 + 10x0.024 + 3.0 + 2.0 + 6.0
= 29.69kg
≒ 29.7kg

■Limitation of the amount of refrigerant to be charged

The above calculation result of the amount of refrigerant to be charged must become below the value in the table below.

Heat source unit model	P200	P250	P300	P400	P450	P500	P550	P600
Maximum amount of refrigerant *1 kg	34.3	43.3	44.3	58.5	65.5	79.2	67.2	70.9

*1 Amount of additional refrigerant to be charged on site.

DATA BOOK PQHY-P Y(S)HM-A
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- For ground source application

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MEE09K040

New publication effective Sep.2010
Specifications subject to change without notice